

# Finalised projects funded by the European Union

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# OPERATIONAL PROGRAMME EFFICIENT HUMAN RESOURCES 2014-2020

<https://strukturnifondovi.hr/eu-fondovi/esi-fondovi-2014-2020/op-ucinkoviti-ljudski-potencijali-2014-2020/>



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[www.strukturnifondovi.hr](http://www.strukturnifondovi.hr)

List of finalised projects funded (co-funded) from the Operational Programme Efficient Human Resources 2014 – 2020:

### CBS - Technical Assistance OPULJP, KI

Priority Axes 5 - Technical Assistance

Name of the project (operation) beneficiary / partner in the project: CBS - Technical Assistance OPULJP, KI, Croatian Bureau of Statistics

#### **Short description of the project (operation):**

The CBS planned to prepare a project proposal "Improving the implementation of the census" and move from the traditional way to a combined method of census, which would significantly improve the census and reduce the cost of future censuses. Due to professional and financial limitations, the CBS was not able to prepare a project proposal for improving the census, which would cover all methodological and technological issues. With the technical assistance project, the CBS ensured a quality analysis of basic methodological and technological issues necessary for project preparation, and quality preparation of project documentation.

#### **Objectives and expected results of the project (operations):**

Prepared project documentation "Improving the implementation of the census".

#### **Total contracted value of the project and the amount co-financed by the EU (in HRK):**

HRK 655,397.60 (of which the EU donation amounts to HRK 655,397.60)

#### **Project implementation period:**

12/2016. – 08/2017.

Contact person for more information:

- Robert Forster, Croatian Bureau of Statistics, forsterr@dzs.hr



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## EUROSTAT PROJECTS

The list includes statistical projects funded (co-funded) by the European Union, represented by the European Commission, Eurostat finalized in the past five years. The project is considered finalised when Eurostat approves the final report.

## PPPs data collection 2020

Contract number: 875802 — 2019/HR/PPP

EG19 PPP

Implementation period from 01/11/2019 to 28/02/2021

### **Project summary:**

The aim of the project is to collect a high quality data set for calculating parity, first from the lowest levels (SPD level) to basic groups (BHs) to obtain an indicator for calculating GDP by Purchasing Power Parity.

The CBS continuously implements the project through various activities in accordance with the PPP work plan of EUROSTAT based on the EUROSTAT / OECD PPP methodology and in accordance with Regulation (EC) no. Regulation (EC) No 1445/2007 of the European Parliament and of the Council of 11 December 2007 establishing common rules for the provision of basic information on purchasing power parities and for their calculation and dissemination.

The Central Bureau of Statistics implemented the project through seven objectives:

A: Consumer goods price surveys - through this objective CBS was provided data sets that Eurostat use for calculation Price level indices (PLIs) which provide a comparison of countries price levels relative to the EU average and PPPs are indicators of differences in price levels across countries. They indicate how much currency units cost a certain amount of goods and services in different countries. PPPs can be used as currency conversion rates to convert expenditures denominated in national currencies into artificial common currency (PPS), thus eliminating the effect of price differentials in individual countries.

B: Estate agencies rents survey - the aim of the rent surveys was to calculate the differences in current rental levels for the same types of property between Brussels and each of the other places where the survey is done. With provide data sets Eurostat will calculate coefficient that will used to ensure equality of purchasing power of salaries in the different duty stations.

C: Capital goods price surveys - the aim of this objective was to provide to Eurostat data sets for two tasks, Construction survey and Equipment's good survey they are used to deflate Gross fixed capital formation (GFCF) expenditures.

D: Hospital price surveys - the aim of this objective was to collect data on internationally comparable quasi-prices for identified hospital products. These quasi-prices will be used to calculate hospital output based PPPs and price level indices In turn; these calculations will be used to make international comparisons of volume-based measures of hospital expenditures and to calculate specific PPPs for health as a whole within the framework of the Eurostat-OECD PPP Programme.

E: Other PPP input data - this objective included a few different tasks needed for calculation GDP per PPP: GDP expenditure weights, VAT, tips, actual and imputed rents, compensation of government employees and CPI questionnaire.

F: PPP inventory - the aim of this objective was to provide to Eurostat new version of our method and sources that we used in implementation of project in the Republic of Croatia.

G: Additional tasks - this objective included a number of tasks that are useful in the context of the PPP programme but for which individual countries may have different needs.

### **Project results**

With the successful implementation of the project, we obtained several important indicators:



Price level indices (PLI) - they are used to compare the price levels of countries in relation to the European Union average;

Purchasing power parities (PPPs) - indicators of differences in price levels between countries and show how much currency units cost certain quantities of goods and services in different countries;

Purchasing Power Standards (PPS) - an artificial reference currency unit that eliminates differences in price levels between countries, thus one unit of PPS buys the same amount of goods and services in all countries. This unit allows a comparison of the volume of economic indicators in countries. Aggregates expressed in PPS are derived by dividing the aggregates in current prices expressed in national currency with the corresponding PPP.

GDP by PPP - economic indicator of economic and material development of the country compared to 37 countries participating in the ECP / PPP project.

The results of the project are used for research and analysis for statistical compilation and for administrative purposes. The beneficiaries at the international level are the European Commission, the IMF, the OECD, the UN and the World Bank, and at the national level the beneficiaries are government agencies, universities, research institutes, public and private companies, financial institutions, the press and individuals.

The CBS has been participating in the project since 1993 and has been continuously providing quality data sets for the calculation of GDP per PPP for more than 25 years.

New releases published in period covered by Grant:

“Consumption per capita in purchasing power standards in 2018” (13 December 2019)

<https://ec.europa.eu/eurostat/documents/2995521/10266425/2-13122019-AP-EN.PDF.pdf/c5d54bb8-7ddc-5e79-7fdb-a7a570cff36f?t=1576234228000>

“Consumer price levels in 2019” (19 June 2020)

<https://ec.europa.eu/eurostat/documents/2995521/11008686/2-19062020-AP-EN.pdf/ce1a9525-a058-94eb-722f-e12e5698311b?t=1592485091000>

“Consumption per capita in purchasing power standards in 2019” (15 December 2020)

<https://ec.europa.eu/eurostat/documents/2995521/11601993/2-15122020-BP-EN.pdf/cd3fcb0f-fae0-d0ce-0916-9be3ac231210?t=1607964578259>  
[https://www.dzs.hr/Hrv\\_Eng/publication/2020/12-01-05\\_01\\_2020.htm](https://www.dzs.hr/Hrv_Eng/publication/2020/12-01-05_01_2020.htm)

Address (URL) of the project's public website

<https://ec.europa.eu/eurostat/data/database>

<https://ec.europa.eu/eurostat/publications/news-releases>

<https://www.dzs.hr/>

### Contact details for the coordinator

Suzana Čajkušić, Central Bureau of Statistics, [cajkusics@dzs.hr](mailto:cajkusics@dzs.hr)



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## Early estimates of energy balances

EG18 ENERGY

Contract number: 832309 — 2018-CRO-ENERGY

Implementation period from 01/01/2019 to 31/12/2021

### **Project summary**

The general objective of the action is to extend the scope, improve data quality and shorten deadlines for early estimates of energy balances.

Specific objective of the action is: to provide data for early estimates of energy balances in a way that is fully compatible with the principles and data reported under the European System of Accounts (ESA), to develop a methodology at national level for early estimates of energy balances, to deliver early estimates of key aggregates of annual energy statistics, to organise pilot exercises in order to test all relevant elements of the proposed methodology, procedures and technical solutions.

Following main activities are planned: establishing elements which need to be additionally developed for compilation of reporting tables within early estimates of energy balances, establishing additional data sources for compilation of reporting tables, developing methodology for monitoring of geothermal energy production and final consumption survey, revision of surveys about crude oil production, natural gas and petroleum products, import, export of energy products stated above and their stocks, revision of surveys about production of net electricity, heat and consumption of energy products for their production and revision of surveys for coal and coke and their stocks and deliveries, revision of surveys about renewable energy except for geothermal energy, implementation of pilot surveys, implementation new web applications for 4 surveys, production of early estimates of energy balances for 2018, 2019 and 2020.

The project will result in: methodology description of the national approach, assessment of future sustainability of the solution deployed at national level, organisation of national pilot projects, knowledge sharing and dissemination of results.

Final report will provide the methodology approach, the problems encountered and the solutions deployed and their impact on future production of early estimates of energy balances.

### **Coordinator contact details**

Željka Oršanić Kelebuh, orsanickelebuhz@dzs

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Early estimates of energy balances for 2018, 2019 and 2020 were produced. The early estimates of key aggregates on the supply side of the energy balance and the early estimates of key aggregates on the consumption side of the energy balance were determined.

Procedures and technical solutions were set up that allowed production of early estimates of annual energy statistics.

Methodology for compilation of reporting tables including methods for involvement of data from early estimates of energy balances, from additional data sources and by estimation was updated.

Surveys were revised accordingly in order to improve the quality of data and to make them more user-friendly. Collection mode was enhanced. Web application was created and changed work method.

Developments were made to reduce the administrative burden of the process, to avoid potential human errors when processing data and to increase flexibility when dealing with potential changes.

All project activities were modulated in a way that results could be used in all other scope of the energy statistics (the production of energy balance, the cogeneration analysis, etc.)



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## Redesigned and modernised Intrastat system implementation

EG19 Intrastat

Contract number: 875667 — 2019-HR-CBS-B4468-Intrastat

Implementation period from 01/11/2019 to 31/12/2021

### **Project summary**

Main context of this project is to carry out preparatory actions referring to the implementation of modernised Intrastat with special emphasis on collecting two new variables from PSI's - Partner ID and Country of origin on export side, make adjustments and solve possible changes related to MDE IT, as well as analyse and plan future compilation of INTRA-EU trade. Expected impact is to be ready for collecting new variables from PSI's bearing in mind also reduction of administrative burden on them.

Overall objective of this project is to undertake preparatory activities for future compulsory micro-data exchange, all in compliance with the technical and statistical requirements, especially referred to the communication with PSI's and mandatory data collection of two new variables as well as planning future compilation of INTRA-EU trade when FRIBS becomes applicable.

Plan activities include: confidentiality issues, metadata deliveries, possible adjustment of existing Statistical Intrastat system in CBS in reference to some modifications like DSD, changes of validation rules before real production, communication with PSI's, informing PSI's of mandatory data collection of Partner ID and country of origin on export side, planning how to handle with future compilation of INTRA-EU trade.

Main achievements: MDE from statistical and IT aspect ready for production environment, all PSIs legally informed about collection of two new data elements and are ready for delivering them by the time FRIBS come into force (January, 2022.), new compilation methods explored as well as potential new data sources and depending of analysis and results as well as quality – possibility of implementation when FRIBS become applicable.

Expected results will be: national information system ready for real production environment in MDE followed by mandatory collection of Partner ID and COO from PSI's, with possible introduction of new compilation of INTRA-EU trade.

### **Coordinator contact details**

Boro Žderić, zdericb@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Nacionalni informacijski sustav je modificiran i prilagođen za stvarno proizvodno okruženje u MDE (Micro Data Exchange) odnosno pripremu, validaciju i razmjenu (slanje i primanje) mikro podatka između država članica EU-a uz obavezno prikupljanje dodatnih podataka od izvještajnih jedinica o ID-u partnera u drugoj državi članici i zemlji podrijetla robe na strani izvoza.

-Izveštajne jedinice su prilagodile svoje sustave za izvještavanje uključivanjem novih varijabli u Intrastat obrazac.

-Prilagođena je SIS baza podataka za razmjenu stvarnih podataka i metapodataka u proizvodnom okruženju uz obvezno prikupljanje podataka s dvaju novih polja za eventualnu novu INTRA-EU kompilaciju podataka.

-Prilagođena je SIS baza podataka za pohranjivanje mikropodataka primljenih od drugih MS spremnih za korištenje za novu INTRA-EU kompilaciju podataka.

-Provedene su sve potrebne aktivnosti vezane uz tehničko testiranje za MDE kroz sigurnu mrežu putem novog EDAMIS 4 sustava i korištenjem loopback moda

-Predprodukcija – slanje i primanje mikropodataka korištenjem produkcijskog okruženja putem EDAMIS-a uspješno je provedena

-DZS je potpisao Multilateralni sporazum (MLA), a također je uspješno završena IT sigurnosna certifikacija kao glavni uvjeti za testiranje MDE skupova podataka i stvarno proizvodno okruženje

DZS će nastaviti provoditi ovo istraživanje i aktivnosti u okviru nacionalnog zakonodavstva putem redovitog Godišnjeg provedbenog plana (GPP) koji se financira iz državnog proračuna, čime će se osigurati održivost rezultata.



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## Data collection for City and Subnational Statistics

EG19 SUB-NAT

Contract number: 882062 — 2019-HR-SUBNAT

Implementation period from 01/04/2020 to 31/03/2022

### **Project summary**

The general context of this action: to collect quantitative information on the quality of life in European cities and regions.

The main purpose: to develop and adapt the statistical infrastructure in order to produce statistics on sub-national territorial typologies.

Planned activities:

A 1 - Provision of statistics on Cities and Functional Urban Areas: Compile the variables for the different territorial units (City and Functional Urban Area level for reference years 2019 and 2020)

A 2 - Provision of metadata: Provide a description of the data collected in Activity 1 (e.g. data source, methodology used to estimate the variables etc.).

A 6 - Raise awareness and increase knowledge about sub-national statistics: Include dissemination and communication activities: organisation of workshops, participation on events and preparation of electronic or printed information materials on the subject.

The main achievements expected: Validated dataset for the ref. years 2019 and 2020, metadata file according to ESS standards completed, raised awareness and increased knowledge about sub-national statistics.

Expected results (A 1 & 2): implemented and improved city statistics data collection at national level and produced related statistical outputs according to ESS standards.

Expected results (A 6): Knowledge sharing; dissemination and communication of sub-nationals statistics and results of the action.

The activities and results achieved will be presented to all project participants at the end of the project with the aim to see what could be further improved. Feedback information received from the representatives of every branch office participating in the project (good input for creating the next project).

The experience gathered in the previous data collection projects and methodological studies show the need to further explore the use of new data sources and methods to improve the quality of sub-national statistics. This project aims to implement these activities.

### **Coordinator contact details**

Žaklina Čizmović, [cizmovicz@dzs.hr](mailto:cizmovicz@dzs.hr)

### **List of participants**

### **Project results**

Validiran je skup podataka za referentne godine 2019. i 2020., dovršena datoteka metapoda uvedeno i poboljšano prikupljanje podataka urbane statistike na nacionalnoj razini i proizvedeni povezani statistički rezultati prema standardima ESS-a. tako prema standardima ESS-a, podignuta svijest i znanje o subnacionalnim statistikama, dijeljenje znanja; diseminacija i objava podataka subnacionalnih statistika i rezultata aktivnosti.



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## Support to ESS members on IT security improvement EG20 SECUIT

Contract number: 101018235 — 2020-HR-SECUIT

Implementation period from 01/01/2021 to 31/12/2021

### **Project summary**

The exchange of data is a cornerstone of the production of statistics. In order to provide a very high level of security during the transmission, management and storage of the confidential statistical information, CBS continues to build the capacity to perform this data exchange in a secure manner.

CBS needs to enable the secure data exchange, in order to become the ESS member fully compliant with the ESS IT security framework and in order to be considered as a trusted partner within the scope of the ESS IT Security

Framework. The data exchange relates to: confidential data on businesses (INTRASTAT), exchange on a mandatory basis for the production of European statistics and exchange between ESS members (including NSIs, ONAs and Eurostat).

While CBS has improved its IT security maturity, it still needs to continue to improve its security level.

These efforts fit in the overall objective of the action, which is: Supporting ESS members to set up and/or to adapt/improve their IT infrastructure and security procedures in order to be conform with the controls identified in the ESS IT security framework.

This proposal is a continuation of previous proposals and plans (IT SEC16, IT SEC17, IT SEC18 and IT SEC19).

The project activities aim to ensure an increased level of security, integrity and confidentiality of data collected, processed, stored and exchanged in CIS or NIS. Acquisition of licenses, programs and equipment will enable the implementation of high level of data protection and security, as well as implementation of other measures in accordance with the IT security framework and controls within the requirements established in the ESS IT Security Framework.

The expected outcome of the project is further improvement of compliance of CBS' IT infrastructure with the ESS IT security framework. These improvements will ensure all participants in the data exchange the confidentiality, integrity and availability of data collected, processed, stored in CBS and exchange

### **Coordinator contact details**

Silvio Zlopaša, zlopasas@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Očuvanje razine sigurnosti, dostupnosti, pouzdanosti podataka SIMSTAT-a i obrade



-Povećanje sigurnosti u sigurnoj sobi (za Intrastat Micro Data kojima pristupaju popisivači) putem vanjskog i lokalnog pristupa

-Pokazatelji rezultata: Instalirane i testirane softverske licence (po 1 licenci za: SIEM Log Analyzer, NGTP Vectra Cognito, Check Point, Wallix Session Manager i potpunu licencu za sigurnu sobu.

1. Jedinstveni sustav za nadzor i upravljanje sigurnosnim događajima (AlienVault Unified Security Management, USM u IT infrastrukturi)
2. Sustav za podizanje razine sigurnosti pristupa Internetu i komunikacijskih veza (CheckPoint Firewall Next Generation Threat Prevention & SandBlast, NGTX)
3. Sustav za brzo otkrivanje i odgovor na prijetnje (Vectra Cognito Detect)
4. Sustav za upravljanje i analizu zapisa udaljenih i VPN korisnika (Wallix Session Manager)
5. VMware Workspace ONE je platforma za upravljanje koja IT administratorima omogućuje centralnu kontrolu mobilnih uređaja krajnjih korisnika i virtualnih stolnih računala i aplikacija smještenih u oblaku iz oblaka ili iz lokalne implementacije.

VMware vSAN 7 modernizira hiperkonvergiranu infrastrukturu pružajući administratorima jedinstvenu kontrolnu razinu pohrane i za blok protokole datoteka te pruža značajna poboljšanja.

Svi sustavi su usklađeni s odredbama Politike informacijske sigurnosti i poslovnim potrebama DZS-a.



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## Implementation of the Regulation on European Business Statistics (EBS): deployment of the customs data exchange

EG20 EXTRASTAT

Contract number: 101018707 — 2020-HR-B5675-CDE

Implementation period from 01/01/2021 to 28/02/2022

### **Project summary**

The general objective of this project is to support the national statistical authorities compiling statistics on extra-EU trade in goods to carry out tasks related to the CDE implementation, in order to comply with the requirements of Art 5(4) of the Regulation on European Business Statistics ((EU) 2019/2152), applicable for ITGS as of 1 January 2022.

### **Coordinator contact details**

Dubravka Drempetić, drempeticd@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Uspješno su odrađene sve planirane aktivnosti:

- razvijena su metodološka rješenja za identifikaciju carinskih deklaracija koje se odnose na kvazi izvoz i centralizirano carinjenje koje su predmet razmjene carinskih podataka (CDE)
- tijekom projekta je uspješno i učinkovito izrađena nadogradnja aplikacije za obradu Extrastat podataka i SIS baze podataka s funkcijama za razmjenu carinskih podataka prema postojećoj tehničkoj dokumentaciji
- uspostavljen je nacionalni informacijski sustav za razmjenu carinskih podataka
- uspješno je provedena razmjena carinskih podataka u testnom i proizvodnom okruženju
- odlučeno je da će DZS koristiti TESTA mrežu sa SFTP pristupom za razmjenu carinskih podataka
- provedeno je informiranje djelatnika Carinske uprave RH o promjenama u zahtjevima za statističko izvješćivanje te također radi eventualnih budućih izmjena prema zahtjevima EU-a

DZS će nastaviti provoditi ovo istraživanje i aktivnosti u okviru nacionalnog zakonodavstva putem redovitog Godišnjeg provedbenog plana (GPP) koji se financira iz državnog proračuna, čime će se osigurati održivost rezultata.



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## Participation to the 2020/2021 European Statistics Competition

**Contract number: 101016660 — 2020-HR-COMPETITION**

EG20 COMP

Implementation period from 01/09/2020 to 31/08/2021

### **Project summary**

Organizing the Statistical competition for the fourth year in a row helped the CBS to increase advanced student's interests in statistics and show the important role of statistics in everyday life and to promote teamwork and collaboration among students. Given that the CBS is continuously making additional efforts to boost awareness of statistics among the younger generations, by organizing the competition we are able to continue investing in the modernization of communication, as well as the use of official statistics, both national and European. Also, within the project we continue encouraging teachers to use new materials in teaching and use of real data provided. Our desire for this competition is to become traditional annual event in order to continually educate students about the importance of statistics in everyday life.

By establishing good connections with the educational sector, the CBS has made this competition traditional and the teachers are spreading the good words about the competition between themselves and among the students. With each competition organized over the years, we collected suggestions for improvements from participants and implemented them where possible. The CBS will continue with all of the promotional activities and popularisation of statistics through this unique competition. Every year, we have promotional campaign through different communication channels and we continue to achieve our general objective for introducing statistics even more in the national curriculum and to ensure extra points for students while enrolling faculties. Due to the good response, the CBS implemented the public choice award for the second year in a row.

By organizing the ESC at national level for the fourth time, the CBS strengthened connections within educational sector even more. And by implementing public choice award once again, the CBS interested the wider audience for statistics and for the competition.

### **Coordinator contact details**

Kristina Balun, Croatian Bureau of Statistics, balunk@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The Croatian Bureau of Statistics (CBS), as the main disseminator of official statistics in Croatia, continuously invests efforts in promoting statistical literacy to the younger generations that will be the future decision makers one day. By organizing the European Statistical Competition (ESC) at the national level, with a focus on proactive communication, the CBS

was able to increase their interest in statistics, promote teamwork and cooperation among students and encourage teachers to use new materials and use official statistics in teaching. In this way, the CBS helped students to better understand official statistics and to raise awareness of the importance of statistical data in everyday life, which was the goal of the CBS as the main. Considering all the challenges due to spread of COVID-19, the fourth edition lived up to our expectations, as more than 700 participants gathered in 252 teams from 59 secondary schools across Croatia took part in this statistical story in the 2020/2021 school year. With the organization and implementation of the fourth edition of the ESC at the national level, the competition has gained credibility that has ensured connections with numerous teachers and close cooperation with government institutions responsible for educational system. The most important achievement that needs to be emphasised is cooperation with the Agency for Science and Higher Education thanks to which students who have achieved best results would benefit from the competition by getting extra points while enrolling faculties. Besides that, students' interest in participating in the statistical competition shows that they are aware of the importance of statistics and its use in everyday life. In addition, second year in the row the CBS included the public who is not directly involved in the competition via social media through public choice award which helped with statistical literacy promotion even more. Therefore, statistical competition once again proved to be one of the most important projects in the area of statistical literacy. That newly gained understanding led to a close cooperation on other ongoing projects in the area of statistical literacy promotion.



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## Action plan for EU-SILC improvements (timeliness and preparation for EU-SILC revision)

**Contract number: 830846 — 2018-HR-ACTION PLAN SILC**

EG18 SILC - IMPR

Implementation period from 01/01/2019 to 30/06/2021

### **Project summary**

General objective

The general objective of the project is to increase efficiency of data collection of EU-SILC and to investigate opportunities to improve timeliness and quality of collected data.

Specific objectives

Objective 3: Tests for EU-SILC revision

Specific objectives of this action are related to:

- improvements of the data collection methods in order to increase efficiency and quality of EU-SILC data,
- reducing proxy rates in the survey in order to be more in line with new requirements based on the new legal basis for EU-SILC,
- investigation and analyses of new or improved data sources to enhance the use of available data bases that can be used as administrative data sources in EU-SILC.

### **Coordinator contact details**

Hrvoje Žagmeštar, Croatian Bureau of Statistics, [zagmestarh@dzs.hr](mailto:zagmestarh@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

EG18 SILC IMPR was conducted in period from 1st January 2019 – 31st December 2020.

The main objectives in project were reducing of proxy rate (all current household members aged 16 and over need to provide answers on questions from questionnaire for theirselves – proxy answers were not allowed) and enhanced use of administrative data to reduce the duration of questionnaire and increase quality of data.

Results of objective „reducing proxy rate“ were:

- Blaise program was adjusted also for CATI mode data collection so the persons who were not present at the CAPI time of interview, could be interviewed later through the CATI mode at appointed time with interviewer,
- Prepared adjusted instructions of interviewers
- Results of objective „enhanced use of administrative sources“ were:
- Enhanced use of database of Ministry of Interior Affairs due high percentage of changes of households addresses in the period from Census 2011,
- Enhanced use of Croatian Pension Insurance Institute for occupation codes (ISCO) and activity codes (NACE classification),
- Enhanced use of Croatian Health Insurance Fund for checking and comparison persons activity status with survey results
- For income data SILC Department enhanced use of JOPPD form (Tax administration database),
- For social benefits data contact has been made with Ministry of Demography, Family, Youth and Social Policy for exchange of database with persons who received social benefits under their jurisdiction



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## LFS 2020 module, quality improvement and breaks in time series exercise

**Contract number: 878531 — 2019-HR-LFS**

EG19 LFSQ

Implementation period from 01/10/2019 to 31/05/2021

### **Project summary**

The purpose of this project is to implement LFS 2020 ad hoc module on "Accidents at work and other work-related health problems" - Sub-action 1: Conducting the 2020 LFS module on "Accidents at work and other work-related health problems". The project aims at supporting the Croatian Bureau of Statistics to be compliant with the Commission Implementing Regulation (EU) 2018/1709 of 13 November 2018 and to enhance the quality of the EU-LFS data as regards methodological and fieldwork issues through:

- collecting methodologically sound and valid data in accordance with Commission Implementing Regulation (EU) 2018/1709 of 13 November 2018 specifying the technical characteristics of the 2020 ad hoc module on accidents at work and other work-related health problems,
- increasing the comparability of results by the use of the proposed model questionnaire as agreed by the LAMAS working group.

The 2020 ad hoc module will be carried out as a supplement to the Labour Force Survey in the second quarter 2020 (April – June 2020). The sample used for the ad hoc module will be the same as sample used for the Labour Force Survey in the second quarter of 2020 that is approximately 7280 dwellings.

Data collection (fieldwork) will be carried out by CATI and CAPI interviewing methods.

Ad hoc module on "Accidents at work and other work-related health problems" has already been conducted 2 times at national level (2007 and 2013) and it is going to be repeated every 8 years, as a regular module under the IESS framework regulation, starting from 2028.

### **Coordinator contact details**

Anita Pavlović, Croatian Bureau of Statistics, [pavlovica@dzs.hr](mailto:pavlovica@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The project results were:

- methodologically sound and valid data collected in accordance with Commission Implementing Regulation (EU) 2018/1709 of 13 November 2018 specifying the technical characteristics of the 2020 ad hoc module on accidents at work and other work-related health problems;



- achieved high comparability of results due to implementation of the model questionnaire and explanatory notes proposed by Eurostat;
- obtained answers to the following specific questions:
  1. How many accidents occur at work leading to an injury,
  2. How many people have health problems caused or made worse by work,
  3. How many people are exposed to risk factors affecting their physical health and mental well-being,
  4. Which types of accidents, health problems and risk factors occur,
  5. What is the impact of accidents and health problems in terms of lost days from work,
  6. Who is affected in terms of individual, occupational and labour market characteristics.



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## IT Security improvement in the ESS for the exchange of confidential statistical information

**Contract number: 878539 — 2019\_HR\_IT SEC**

EG19 IT SEC

Implementation period from 01/01/2020 to 31/12/2020

### **Project summary**

The exchange of data is a cornerstone of the production of statistics. In order to provide a very high level of security during the transmission, management and storage of the confidential statistical information, CBS continues to build the capacity to perform this data exchange in a secure manner.

CBS needs to enable the secure data exchange, in order to become the ESS member fully compliant with the ESS IT security framework and in order to be considered as a trusted partner within the scope of the ESS IT Security Framework. The data exchange relates to: confidential data on businesses (INTRASTAT), exchange on a mandatory basis for the production of European statistics and exchange between ESS members (including NSIs, ONAs and Eurostat).

While CBS has improved its IT security maturity, it still needs to continue to improve its security level.

These efforts fit in the overall objective of the action, which is: Supporting ESS members to set up and/or to adapt/improve their IT infrastructure and security procedures in order to be conform with the controls identified in the ESS IT security framework.

This proposal is a continuation of previous proposals and plans (IT SEC16, IT SEC17 and IT SEC18).

The project activities aim to ensure an increased level of security, integrity and confidentiality of data collected, processed, stored and exchanged in CIS or NIS. Acquisition of licenses, programs and equipment will enable the implementation of high level of data protection and security, as well as implementation of other measures in accordance with the IT security framework and controls within the requirements established in the ESS IT Security Framework.

The expected outcome of the project is further improvement of compliance of CBS' IT infrastructure with the ESS IT security framework. These improvements will ensure all participants in the data exchange the confidentiality, integrity and availability of data collected, processed, stored in CBS and exchanged between NSI.

### **Coordinator contact details**

Silvio Zlopaša, Croatian Bureau of Statistics, [zlopasas@dzs.hr](mailto:zlopasas@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Activities performed were:

1. Procurement of software licenses and hardware (Preparation of technical specifications, participation in evaluation of received offers)  
Definition of technical specification concerning hardware, software and licenses, as well as Terms of reference for the IT Security Audit planned to be purchased

2. Procurement of IT security audit services (Preparation of tender documentation, sending Call for proposals, evaluation of received offers, contracting the most successful bidder. Procurement procedure will be carried out according to the CBS' Internal Regulation on Simple Procurement) IT security audit carried out, audit report on IT security audit stating the compliance level of the infrastructure produced.
3. Delivery and installation of software and hardware (Handover of software and hardware, Installation, Setup and testing, Putting into operation)
4. Implementation of IT security audit (Monitoring of the measures carried out based on the previous IT security audit;  
Checking the compliance level of CBS' IT infrastructure)
5. Management of technical activities, monitoring of technical implementation, technical reporting (Ensuring successful development and implementation of the project activities; Productive guidance, efficient communication and supervision of the project's team; Achievement of the project's main objectives; Optimization of the allocated necessary inputs; Evaluation and reporting on execution of the planned tasks).

All technical activities were monitored and supervised in accordance with the implementation of the project and all planned activities were successfully completed.

The objectives of the project were achieved. The project enabled secure data exchange and the improved compliancy with the ESS IT security framework. The project improved CBS infrastructure in order to comply with minimum requirements for the IT security framework and with the controls identified in the ESS IT security framework.



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## PPPs data collection 2020

**Contract number: 875802 — 2019/HR/PPP**

EG19 PPP

Implementation period from 01/11/2019 to 28/02/2021

### **Project summary**

The overall purpose of the Eurostat/OECD (PPP) programme is to provide users with high quality PPPs and related economic indicators. The action aims at ensuring the provision of high quality and comparable input data for calculating PPPs. To achieve this aim, the NSI will fulfill the specific tasks under Objectives A to G.

CBS will participate in all seven objectives:

#### A: Consumer goods price surveys

The aim is to have a data set of average prices of a sufficient number of consumer products defined on each survey's item list that enables a calculation of price ratios across countries in order to establish good quality PPPs. The data shall be supported with metadata.

B: Estate agencies rent survey. The aim is to provide validated capital city rentals data sets. This requires visits to agencies in the capital city where the rent survey will take place.

#### C: Capital goods price surveys

The aim is to provide validated construction and equipment goods price data including necessary metadata for the construction and the equipment goods price surveys.

#### D: Hospital price surveys

The aim is to collect and provide Eurostat with validated hospital price data including necessary metadata for the surveys.

#### E: Other PPP input data

The aim is to provide Eurostat with data needed for the PPP calculations, i.e. on GDP expenditure weights, VAT, tips, actual and imputed rents, compensation of government employees for 2019-2018-2017 and CPIs for 2019.

#### F: PPP Inventory

The PPP Regulation requires all MSs to maintain documentation, which gives a full description of the manner in which the Regulation has been implemented.

#### G: Additional tasks

This objective includes a number of tasks that are useful in the context of the PPP programme but for which individual countries may have different needs.

W1: Management of technical activities, monitoring of technical implementation, technical reporting

The expected outcome of the action is the provision of high quality and comparable input data for the calculation and dissemination of Purchasing Power Parities. The deliverables are listed in Annex 1.

### **Coordinator contact details**

Suzana Čajkušić, Croatian Bureau of Statistics, [cajkusics@dzs.hr](mailto:cajkusics@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The main output of this project was to calculate purchasing power parities (PPPs) which are indicators of price level differences across countries. The main use of PPPs is to convert national accounts aggregates, like the Gross Domestic Product (GDP) of different countries, into comparable volume aggregates. The use of PPPs ensures that the GDP of all countries is valued at a uniform price level and thus reflects only differences in the actual volume of the economy. PPPs are also applied in analyses of relative price levels across countries. For this purpose, the PPPs are divided by the current nominal exchange rate to obtain a price level index (PLI) which expresses the price level of a given country relative to another, or relative to a group of countries like the EU Member States. The production of PPPs is a multilateral exercise involving the National Statistical Institutes of the participating countries, Eurostat and the OECD.

The indicators published in the price domain on Eurostat's website were the following:

- Purchasing power parities (PPPs) scaled to the sum of expenditures of the EU Member States expressed in euro. This means that the PPP of one particular country indicates how many units of national currency one would need in that country in order to maintain the purchasing power of one euro in the EU
- Price level indices (PLIs) as defined above
- Nominal expenditure in national currency, as extracted from each country's national accounts
- Nominal expenditure as percentage of GDP
- Nominal expenditure in euro
- Nominal expenditure per inhabitant in euro
- Real expenditure, defined as nominal expenditure divided by the PPP
- Real expenditure per inhabitant
- Volume indices of real expenditure per inhabitant
- The convergence indicators, defined as the coefficient of variation of the price level indices (PLIs) and per capita volume indices (VIs) of gross domestic product (GDP), actual individual consumption (AIC) and household final consumption expenditure (HFCE). It measures the price and volume convergence across countries.

In addition in period covered by this grant Eurostat published three news releases:

“Consumption per capita in purchasing power standards in 2018” (13 December 2019)

<https://ec.europa.eu/eurostat/documents/2995521/10266425/2-13122019-AP-EN.PDF.pdf/c5d54bb8-7ddc-5e79-7fdb-a7a570cff36f?t=1576234228000>

“Consumer price levels in 2019” (19 June 2020)

<https://ec.europa.eu/eurostat/documents/2995521/11008686/2-19062020-AP-EN.pdf/ce1a9525-a058-94eb-722f-e12e5698311b?t=1592485091000>

“Consumption per capita in purchasing power standards in 2019” (15 December 2020)

<https://ec.europa.eu/eurostat/documents/2995521/11601993/2-15122020-BP-EN.pdf/cd3fcb0f-faee-d0ce-0916-9be3ac231210?t=1607964578259>

In addition, CBS published - “Gross domestic product and actual individual consumption in purchasing power standard, 2019”. First release was published the same time as Eurostat published news release (at 11 a.m. 15 December 2020).

[https://www.dzs.hr/Hrv\\_Eng/publication/2020/12-01-05\\_01\\_2020.htm](https://www.dzs.hr/Hrv_Eng/publication/2020/12-01-05_01_2020.htm)



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## Data collection on ICT usage in households and by individuals 2020

**Contract number: 2019.0259**

EG19 ICT

Implementation period from 01/11/2019 to 31/12/2020

### **Project summary**

#### *Module 1: Data collection on ICT usage and e-commerce in enterprises 2020*

The objective of the Module 1 is to collect and transmit accurate, reliable and representative data based on the 2020 Eurostat model questionnaire on ICT usage and e-Commerce in enterprises and on Annex I of the 2019 draft Commission Regulation implementing Regulation 808/2004. The quality aspect is covered in Article 7 of (EC) No 808/2004 titled "quality criteria and reports", paragraphs 1, 2, 3 and 4. Accurate sampling design, grossing-up and minimising non-response are priorities for achieving the objective.

#### *Module 2: Data collection on ICT usage in households and by individuals 2020*

The objective of the Module 2 is to collect and transmit accurate, reliable and representative data based on the 2020 Eurostat model questionnaire on ICT usage in households and by individuals and on Annex II of the 2019 draft Commission Regulation implementing Regulation 808/2004. The quality aspect is covered in Article 7 of (EC) No 808/2004 titled "quality criteria and reports", paragraphs 1, 2, 3 and 4. Accurate sampling design, grossing-up and minimising non-response are priorities for achieving the objective.

### **Coordinator contact details**

Hrvoje Markuš, Croatian Bureau of Statistics, [markush@dzs.hr](mailto:markush@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

All planned activities were performed. All set results were achieved and delivered to Eurostat.

#### *Module 1: Data collection on ICT usage and e-commerce in enterprises 2020 deliverables:*

- Metadata report
- Data delivery
- Quality report (Final report)
- Implementation report

#### *Module 2: Data collection on ICT usage in households and by individuals 2020*

- Metadata report
- Data final delivery
- Quality report (Final report)
- Implementation report



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## Globalisation - MNEs, profiling, LCUs, EGR

**Contract number: 879275 — 2019-HR-B4474-Globalisation**

EG19 GLOB

Implementation period from 01/12/2019 to 31/12/2020

### **Project summary**

In this project, CBS will implement and test European profiling with the needs of the national domains in mind (NA, GNI, FATS). CBS will test implementing national profiling of national significant groups in IPT. Profiling will be done on new groups that were not profiled under previous actions or were profiled in 2017 (for the reference year 2016) or earlier.

One of the work programme will be also achieving quality improvement of the NSBR and EGR by increasing the consistency and cooperation between NSBR, EGR and FATS (iFATS). These activities concern Work area 5 (work package 3) and CBS confirms that there is no risk for double financing of the work and the work CBS intends to perform has not been performed and financed before under other grants.

The last work programme is investigating additional data sources for enriching EGR.

Objectives will be achieved through the following activities:

WA 1 – doing collaborative European profiling for ref. year 2019 with the support of IPT prototype (version 2019-2020)

WA 2 – doing National profiling in IPT for the benefit of the ESS

WA 5 – by cooperation between NSBR, EGR and FATS the consistency between statistical domains will increase

WA 7 – additional national data and sources for enriching EGR will be investigated

WA 1 and 2: An improved quality of the largest multinational groups' structures and an improved delineation of their national statistical units in IPT. Benefits from this Work area will have all statistical domains who are doing statistics on globalization such as: NA, GNI, FATS. NSBR and EGR will be nearer to be backbone and main source for producing meaningful national business statistics and globalisation related statistics.

WA 1: Addressed needs of important clients for European profiling, such as National Accounts, FATS, and other users

WA 2: Improved synergy between national and European profiling by introducing the former in IPT, thus enhancing the benefits for the ESS as a whole

WA 5:

- Better collaboration between the National business registers/EGR and FATS will be established. NSBR/EGR and FATS output will be more consistent if the single UCI concept will be used for both processes.
- The EGR will be used as main data source (backbone) for the production of inward and outward FATS.

- As this is collaborative process, best practices among EGR and FATS participating countries will be shared.

WA 7:

Module 7.1 - Provision of additional economic variables/breakdowns will be investigated, and see if they can be compiled and transmitted to the EGR.

Module 7.2 - Implementation of Special Purpose entities (SPE) and Natural Persons (NP) in the NSBR and EGR will be investigated

### **Coordinator contact details**

Zrinka Uglešić, Croatian Bureau of Statistics, [uglesicz@dzs.hr](mailto:uglesicz@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Project consisted of 7 Work area, from which CBS has chosen 4 of them:

- WA 1 – collaborative European profiling for ref. year 2019 with the support of IPT prototype (version 2019- 2020)
- WA 2 – National profiling in IPT for the benefit of the ESS
- WA 5 – by cooperation between NSBR, EGR and FATS the consistency between statistical domains will increase
- WA 7–additional national data and sources for enriching EGR will be investigated

1. In Work area 1 – Work package 1

CBS did light profiling of 2 Groups as the GDC country and 20 GROUPS as partnering country.

2. Work area 2 – Work package 2

CBS tested national profiling in the IPT tool.

3. Work area 5 – Work package 3

Within this Project, additional efforts have been made to detect enterprises that belong to iFATS scope, that are in CNB's FDI list and not in EGR. This project was rewarding experience, as for the first time real cooperation with iFATS and nSBR started, and it will continue in the future.

1. Work area 7 – Work package 4 (Module 7.1 and 7.2)

a) Module 7.1.

In this Grant and Module, preparation for the national work plans for producing and exchanging additional economic variables on regular basis was required.

As it was not specified which additional economic variables should be provided, CBS decided to make additional variables on the legal units and enterprises that were in the profiling in this Grant.

For the purpose of this Grant, for 62 LEU and 24 ENT, the following economic variables were produced:

- Balance sheet total
- Balance sheet total currency code
- Stocks currency code
- Stocks
- Purchases
- Purchases currency code
- Annual investments
- Annual investments currency code
- Import
- Import currency code
- Export
- Export currency code

Technically, all requested additional variables exist in in statistical production, and administrative sources on the level of legal units, but for the time being, it is very difficult to put it in the regular production. In the future, CBS should strengthen the resources and team who will work on this.

□ Module 7.2:

a) Special Purpose Entities (SPE)

Prescribed methodology was “Final Report of the Task Force on Special Purpose Entities, Oct. 2018.”. After many analyses (annual financial reports, web pages, cross-border claims and liabilities) with combination of finding physical presence of legal units in Croatia, only 9 SPEs were identified.

b) Natural persons controlling MNE groups

Analysis of possible sources for the identification of Natural Person controlling MNE groups was done. As this was the first time that CBS was doing this, two administrative and one statistical sources were matched.

- a) Commercial court register – public available administrative source
- b) Central Depository and Clearing Company (CDCC) – administrative source
- c) iFATS – statistical source

In this project only few Domestic multinational Groups with foreign and domestic Natural Persons who are controlling domestic MNE’s were found and send via eDamis.



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## Price statistics Action 2. New data sources for HICP

**Contract number: 847401 — 2018-HR-PRICE**

EG18 PRICES

Implementation period from 01/12/2018 to 30/11/2020

### **Project summary**

General objective: To develop and improve methodologies and practical solutions to collect the data using scanner data and web scraping as the new sources of price information replacing manually collected price quotes at outlets that are compatible with the current European legal framework and best practices.

Specific objectives:

- conceptual study on the use of scanner data for ECOICOP 01 (Food and non-alcoholic beverages)
- conceptual study on the use of web scraped data for selected components of the HICP
- empirical study on the basis of scanner data and web scraped data, including assessments of the impact on the HICP indices

### **Coordinator contact details**

Sanja Jurleka, Croatian Bureau of Statistics, [jurlekas@dzs.hr](mailto:jurlekas@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The general objective of the project was to develop and improve methodologies and practical solutions to collect the data using scanner data and web scraping as the new of price information replacing manually collected price quotes at outlets that are compatible with the current European legal framework and best practices.

With participation in this project Croatia carried on research work to achieve pre-defined specific grant objectives:

- conceptual study on the use of scanner data for ECOICOP 01 (Food and non-alcoholic beverages)
- conceptual study on the use of web scraped data for selected components of the HICP
- empirical study on the basis of scanner data and web scraped data, including assessments of the impact on the HICP indices

To accomplish the general and country specific objectives the following activities have been undertaken:

- Assessment of the quality and feasibility of the activity in connection with available/additional data sources
- Analysis of the obtained scanner data from newly included retailers
- Additional product groups to be web scraped and relevant Internet sites have been included and analysed
- Analysis of the optimal treatment of discounts, missing prices, relaunches
- Examination and further study on methodological solutions for the compilation of price data
- Exploring and test setting of a production system that integrates the new data sources to the index compilation
- Assessment of the impact on the HICP indices (overall price index comparison and comparison based on the selected ECOICOP categories)
- Assessment of the quality of the results in connection with data sources and methodology used
- Assessment of possible technical solutions for regular production
- Participation in workshops organised by Eurostat

The activity involved staff from the Price Statistics and European Comparison Programme Department in CBS with the support of IT Department in CBS and the Project implementation Unit is in charge for administrative support and project monitoring.

The project entails further improvement in the calculation of the CPI/HICP through the capture of real sales prices, increasing the accuracy of the indices to a very precise level in terms of product categories. It also enriches knowledge regarding prices and consumer behaviour. These improvements will be achieved while preserving the current concepts underlying the harmonised consumer price index.

Relevant results achieved until the end of the project are listed below:

#### Scanner data

The analysis has shown many advantages in using scanner data as the new data source for the Consumer price index/Harmonised index of consumer prices. CBS carried out analysis of the obtained scanner data sets from newly included retailers (data cover first three full weeks of each month). The data analysis included: analysis of test data set, establishment of data retrieval automation, linking the data into ECOICOP classification (01 Food and non-alcoholic beverages), validation of the mapped data. In this grant the focus was also on defining the methodology: matching the items, defining filters (outliers, dumping), sampling (market share), imputations and calculation of the elementary indices. In addition, the IT tool for mapping GTIN to the ECOICOP was developed (in-house solution). Furthermore, IT developers (CBS experts) explored appropriate production system that would implement the methodology agreed and which should well integrate with the current HICP production system. For this research test calculations for 2019 including scanner data for the ECOICOP 01 with the new methodology was carried out. Full implementation is expected when a minimum of 65-75% of the retail market will be covered and when all relevant retail chains will be involved according to their market share.

#### Web scraping

During the project an in-house solution for web scraping in Python has been developed. Implementation scraping by coding solved the main disadvantages of the previously used third-party software which was related to its high cost as well as limited number of queries. Data for

consumer electronic and household appliances have been web scraped from twelve websites of which ten are physical stores and two are online stores. Data scraping was introduced for additional nineteen new products and number of scraped data per month significantly increased. The test index compilation for selected product groups was based on two methods - dynamic and fixed base approach. A comparison between the existing monthly rates of change for the data series from December 2019 to September 2020 have been calculated. Full implementation of web scraping as new data source started with January 2021 index.



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## Structural Business Statistics Development

**Contract number: 828748 — 2018-HR-B2949-SBSDev (2018-CRO-SBS)**

EG18 SBS

Implementation period from 01/12/2018 to 30/11/2020

### **Project summary**

General objective:

General objective of this action is to contribute to development of methodology for obtaining relevant statistics that could be used to complement existing business demography statistics on high growth enterprises.

Specific objective:

Since the population of enterprises with less than 10 persons have not been covered with statistics on high growth enterprises, this action will give insight into the growth dynamic of micro enterprises and economic importance of micro HGEs.

Current business demography statistics focuses on identification of high growth enterprises for the reference year and compilation of statistics only for the year of identification of HGEs. By following those HGE in next years after the period of high growth, new information on this population can be obtained.

By completing tasks of this action within Croatian circumstances, CBS would like to contribute to development of new statistics.

### **Coordinator contact details**

Paula Nimac, Croatian Bureau of Statistics, [nimacp@dzs.hr](mailto:nimacp@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Objective of this project was to develop methodology for production of new statistics within business demography. Current methodology for statistics on high growth enterprises cover only enterprises that have 10 or more persons employed at the beginning of high growth period of 3 years. Microenterprises which have less than 10 persons employed were not covered although their importance and the share in the total number of enterprises is significant and interest in data this population is growing. This project intended to measure the population of high growth micro enterprises, their characteristics and contribution to economy.

Another objective was to investigate what is happening with enterprises that had high growth, after high growth period, and to develop methodology for studying the dynamics of high-growing enterprises in the period after the growth.



Those objectives were achieved in interaction with other participating countries and Eurostat during project meetings, in writing consultations and delivering results of national data production.

Basis for activities and the developments was methodology for business demography production. New methodology was developed in line with existing recommendations for producing statistics of high growth enterprises.

Several rounds of written consultations for each module and analysis of preliminary statistics and processes for their production, resulted in reaching final agreement of common methodological instructions for data production.

Very important part of activity was micro-data linking of statistical business register data, already produced business demography data, and structural business statistics data in order to use variables from each area for achieving final results.



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## Passenger Mobility and Road Traffic Statistics

**Contract number: 831398 — 2018-CRO-PASS**

EG18 PASS

Implementation period from 01/11/2018 to 31/10/2020

### **Project summary**

General objective

#### Passenger mobility Statistics

The objective of the action is to produce harmonised statistics on passenger mobility and the indicators listed in the Eurostat guidelines using the methodology and definitions prescribed in the Eurostat guidelines (Eurostat guidelines on Passenger mobility Statistics, July 2016).

#### Road traffic Statistics

The objective of the action is to support the development and production of harmonised road traffic statistics based on odometer readings, as well as to identify the type of road network where road traffic takes place.

#### Specific objectives

Within this grant CBS intends to reach the objectives in Module 1, Modul 2 and Module 3.

#### Module 1 Passenger Mobility Statistics

CBS will carry out a National Travel Survey for 2019. Within this survey, CBS intends to collect and produce information on urban and non-urban mobility on working/non-working days within short distance mobility. Specific objectives is to test new methods of data collection (mix modes CAWI and CAPI).

Regarding medium and long-distance mobility CBS intention is to investigate possibilities to use survey on Tourist Activity of Population of Republic of Croatia by adding certain questions regarding Passenger Mobility.

The action aims to test methodological, organisational and other relevant elements needed for the potential full implementation in order to determine whether such a mixed mode data collection would be plausible for the National Travel Survey in Croatia.

#### Module 2 Passenger Mobility – Analysis and publication of results

CBS will produce a report describing in detail the survey approach methodology used, the survey implementation process and obtained results. CBS will prepare the results for 2019 according to indicators and the breakdowns listed in Eurostat guidelines (Eurostat guidelines on Passenger mobility Statistics, July 2016.: Table 2 Passenger mobility indicators by type of mobility (urban, non-urban, total) and type of day (working/non-working day).

An analysis of the results for 2019 will be performed with particular reference to the Eurostat list of indicators and compared with 2017 results for short distance mobility.

More detailed output tables will be produced in order to make a better analysis of the results.

A special emphasis will be given on issues whether medium and long-distance mobility could be derived from the Tourism survey.

### Module 3 Road traffic statistics

The first specific objective of this module will be production of road traffic statistics for 2017 reference year. CBS intends to collect microdata for years 2016, 2017 and 2018 from technical inspection of vehicles, links odometer readings data with the National Vehicles Register, investigates further improvement of the availability of detailed data from available sources and methodology for estimating vehicle kilometres. CBS intends to compare estimated data from odometer readings with other source of traffic information (information from statistical surveys on road freight and passenger transport and National Travel Survey in Croatia).

### Coordinator contact details

Snježana Kos, Croatian Bureau of Statistics, [koss@dzs.hr](mailto:koss@dzs.hr)

### List of participants

Croatian Bureau of Statistics

### Project results

The result of Module 1 Passenger Mobility Statistics was conduction of National Travel Survey using mix mode of data collection (CAWI/CAPI/CATI) for 2019 and production of data on urban and non-urban mobility on working/non-working days within short distance mobility. Regarding medium and long-distance mobility possibilities to use survey on Tourist Activity of Population of Republic of Croatia by adding certain questions regarding Passenger Mobility were investigated.

The result of Module 2 Passenger Mobility – Analysis and publication of results was production of results for 2019 according to indicators and the breakdowns listed in Eurostat guidelines by type of mobility (urban, non-urban, total) and type of day (working/non-working day) for number of trips, travel distance and travel time, passenger kilometres and average vehicle occupancy. All indicators are calculated by travel mode and travel purpose. In calculation of indicators per person per day, number of trip-makers is used as denominator. The results for 2019 for short distance mobility were analysed and compared with 2017 results from pilot survey and published in Statistics in line in June 2020.

The result of Module 3 Road traffic statistics was production of road traffic statistics for 2017 reference year. Microdata from technical inspection of vehicles was collected and linked with

the National Vehicles Register. Additional variables in National Vehicle Register were explored in order to improve the input data for data processing application (type of motor, type of fuel, etc.). CBS was able to calculate vehicle – kilometres for almost all types of fuel as requested by Eurostat.

Further improvement of the availability of detailed data from other sources and methodology for estimating vehicle kilometres were investigated. CBS compared data from odometer readings with other sources of traffic information (information from statistical surveys on road freight and passenger transport and National Travel Survey in Croatia). CBS produced a report describing in detail the issues encountered in using odometer readings in comparison with other source of traffic information. Report also describes in detail all methodological improvements on the survey.

Detailed data on realised vehicle-km of vehicles registered in the country by age, vehicle category and type of fuel for available years were delivered to Eurostat and published by CBS. Data was published in First Release publication in March 2020 under the title “Volume of road traffic of national vehicles, 2014 – 2018”.



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## Statistics on research & development (R&D) and innovation in 2018 (CIS 2018)

**Contract number: 06163.2017.002-2017.512**

EG17 CIS

Implementation period from 01/05/2018 to 30/09/2020

### **Project summary**

The purpose of the action is to compile statistics on the work area B: innovation statistics for CIS 2018 (Modules/Variables for the CIS 2018) in the context of the review of the Oslo Manual.

The general objective of the action is:

- to produce harmonised, reliable and representative data on innovation in enterprises in compliance with the guidelines provided by Eurostat, which will provide quantitative information for benchmarking and monitoring of the EU policies

Specific objectives of the action are the following:

- to implement new methodology and appropriate quality measures in the area of Innovation statistics
- to cover the eight proposed modules of the Harmonized Survey Questionnaire and all the variables within each module
- to improve the statistical production process

### **Coordinator contact details**

Škegro Vdović Matija, Croatian Bureau of Statistics, [skegrom@dzs.hr](mailto:skegrom@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

- a survey of innovation statistics for CIS 2018 was conducted in the context of the review of the Oslo Manual
- produced harmonised, reliable and representative data on innovation in enterprises in compliance with the guidelines provided by Eurostat
- CBS designed national web questionnaire according to Harmonised Survey Questionnaire and covered the eight proposed modules and all the variables within each module
- CBS defined procedures for the data editing programme, conducted data collection, organised help-desk activities and also implemented follow-up measures to improve response
- CBS carried out questionnaire controls and checks that resulted the response rate of enterprises that filled in the questionnaire was 73.5%
- after data control and editing CBS approached data weighting activities

- finally CBS produced the statistical results, setting up SDMX dataset for transmission, applied Eurostat rules for the data calculation
- CBS analysed statistical results – tables in a way to compare some major indicators with past waves
- CBS transmitted voluntary fast track data as well all tabular data in SDMX
- CBS also transmitted micro-data according to Eurostat record structure
- closure report, quality report and final financial statement.



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## Participation to the 2019/2020 European Statistics Competition

**Contract number: 878636**

EG19 LITERACY

Implementation period from 01/08/2019 to 31/07/2020

### **Project summary**

The Croatian Bureau of Statistics (CBS) invests great efforts to boost awareness of statistics among young generations. To reach its goal, the CBS continuously invests in modernization of communication, as well in use of official statistical data, both national and European. By organizing the competition, the CBS wants to advance students' interests in statistics, to continue encouraging teachers to use new materials in teaching and use of real data provided, to show the important role of statistics in everyday life and to promote teamwork and collaboration among students.

The CBS will continue with promotional activities and popularisation of statistics through this unique competition. Set of activities will be conducted in order to get suggestions from participants for improvement and afterwards to organize the competition itself. The general objective to be achieved is to introduce statistics even more in the national curriculum and to ensure for students extra points while enrolling faculties. Promotional campaign through different communication channels will be carried out. The CBS will this year for the first time introduce the public choice award. Ten best teams per category will be preselected after which national jury and public will jointly select winners.

By organizing the ESC at national level, the CBS will strengthen connections within educational sector, both schools and authorities in the field of education that will in the end lead to higher representation of official statistics in national curriculum. By implementing public choice award, the CBS will interest for statistics wider audience, not only students and teachers and in the end, it will raise promotion of statistical literacy on a higher level. By involving general public who is not directly involved in the competition in the process of evaluation, CBS will expand the scope by targeting larger audience and in the end spread awareness in the area of statistical literacy even more.

### **Coordinator contact details**

Kristina Balun, Croatian Bureau of Statistics, balunk@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The Croatian Bureau of Statistics (CBS) as the main authority in the field of statistics continuously invests efforts in promoting statistical literacy among younger generations. Therefore, the CBS continues to conduct European Statistical Competition at the national level.

In the school year 2019/2020, the CBS successfully ensured the best possible implementation of the European Statistics Competition at the national level. The result of intensive promotional activities conducted via online media led to 436 teams participating, i.e. 1 194 students and 137 teachers. Third edition of the ESC at the national level gained credibility that has ensured connections with numerous teachers and close cooperation with government institutions responsible for educational system. The most important achievement that needs to be emphasised is cooperation with the Agency for Science and Higher Education thanks to which students who have achieved best results will benefit from the competition by getting extra points while enrolling faculties. Besides that, statistics has entered in schools that resulted with increased awareness of statistics and its importance in everyday life. That newly gained understanding led to a close cooperation on other ongoing projects in the area of statistical literacy promotion. In addition, the CBS included the general public who is not directly involved in the competition via social media through public choice award which helped with statistical literacy promotion even more.



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## Inland waterways passenger transport and accident statistics 2018

**Contract number: 863511 — 2018-CRO-WATERWAYS**

EG18 WATERWAYS

Implementation period from 01/07/2019 to 30/06/2020

### **Project summary**

General objective

Inland waterways passenger transport statistics

The objective is to implement and assess the draft methodology for a data collection on IWW passenger transport. CBS will conduct a pilot study to collect data on IWW passenger transport, send this data as input for four pre-defined tables, and draft a technical report to assess the methodology as well as the feasibility, costs, burden and statistical quality of data collection.

Specific objectives

Within this grant CBS intends to reach the objectives in Module 1. Inland waterways passenger transport statistic.

### **Coordinator contact details**

Korana Šakić Pokrivač, Croatian Bureau of Statistics, sakick@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The result of this project was implementation and evaluation of the Eurostat draft methodology for collection of IWW passenger transport data.

A pilot study was carried out to collect data on IWW passenger transport. Also a technical report was produced to assess the methodology as well as the feasibility, costs, burden and statistical quality of data collection.

Based on the draft methodology and results of the pilot survey, CBS produced the datasets and sent them to Eurostat.

During this project CBS investigated the possibilities of future collection of data on passengers on cruise ships vessels using new administrative source.



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## LFS 2019 ad hoc module on work organisation and working time arrangements

**Contract number: 821376-2018-CRO-LFS AHM**

EG18 LFS AHM

Implementation period from 01/09/2018 to 30/06/2020

### **Project summary**

General objective

General objectives of the action are:

- valid implementation of the 2019 ad hoc module in accordance with the Commission Implementing Regulation (EU) 2017/2384 of 19 December 2017 aiming to deliver accurate and comparable data to Eurostat.
- increasing comparability of results using the proposed model questionnaire.

Specific objectives

Aim of the 2019 ad hoc module is:

- to provide more detail on how workers can decide on their working time and their absences, but also the frequency of situations when workers are required to change their working time,
- to collect information on time pressures, direct management and autonomy in the work environment,
- to provide more detail on the place of work and on the commuting time expressed as the time required to get from home to work.

### **Coordinator contact details**

Anita Pavlović, Croatian Bureau of Statistics, [pavlovica@dzs.hr](mailto:pavlovica@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

- methodologically sound and valid data collected in accordance with Commission Implementing Regulation (EU) 2017/2384 of 19 December 2017 specifying the technical characteristics of the 2019 ad hoc module on work organisation and working time arrangements;
- achieved high comparability of results due to implementation of the model questionnaire and explanatory notes proposed by Eurostat;
- obtained answers to the following specific questions:
  1. how workers can decide on their working time and their absences,

2. what is the frequency of situations when workers are required to change their working time,
3. is there time pressure, is there autonomy in the work environment,
4. what is the usual place of work and how long is commuting time expressed as the time required to get from home to work.



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## Modernisation of agricultural statistics

**Contract number: 2018.0210**

EG17 AGRI

Implementation period from 27/06/2018 to 26/06/2020

### **Project summary**

General objective

General objective of the action is the preparation for the new Integrated Farm Statistics (IFS).

Specific objectives

Modernising the existing statistical systems by updating the farm register systems, adapting existing questionnaires and improving data processing and validation systems.

Improving methodological processes to be compatible with new legal framework of IFS.

### **Coordinator contact details**

Željko Kanižaj, Croatian Bureau of Statistics, [kanizaj@dzs.hr](mailto:kanizaj@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The main objective of the activity was to upgrade existing data collection and processing applications (CAWI, CAPI) under the new IFS Regulation. Data collection refers to:

1. Legal entities and craftsmen – data collection via Computer Assisted Web Interviewing (CAWI)
2. Private family Farms – data collection via Computer Assisted Personal Interviewing (CAPI).

As part of this project, an adaptation of the existing application was made to support new electronic forms and all new tables and new fields collected in the new survey through CAWI and CAPI forms.

Changes to the application included changes to the user interface to the new form, as well as any necessary changes to the tables and stored procedures in the relational database that contains the aggregated data.

The FSS application enable searching for forms, open them, and correct data. At the same time, there is the possibility of creating new forms and entering data through an electronic form, and deleting existing forms from the database.

The OkiniFSS application enables to tabulate consolidated collected data and to initiate logical-computational controls over all forms in the consolidated database.

In addition to the creation of a new electronic form for collecting data from legal entities and a craftsman through a web application (CAWI), the project also started to create a CAPI version of the form intended for collecting data from private family farms through field surveys.

The electronic questionnaire was developed in Blaise software and is largely identical to the CAWI version of the form.

The CAPI questionnaire was adapted for use through the existing Case Management System (CMS) system used by the CBS for other surveys of this type of data collection. The CMS system enables:

- Distribution and delivery of sample to each individual interviewer according to the given parameters
- Shows at any time the status of the survey implementation for each interviewer, and which units of the sample he or she has completed, started, or has not yet completed.
- Ensures packing of collected data into one file and sending to CBS via communication system (ftp)

The CAPI electronic questionnaire incorporates all logical and computational controls over data according to Eurostat validation rules.

Also, for the first time, Croatian beekeeping register is added on the list of administrative sources which will be regularly used for updating of SRAH as well as to control the obtained data and comparisons at the farm level. CBS improved processing and data collections in the SRAH by adding new characteristics which are necessary for creating sample frame for surveys in the field of agriculture.



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## Modernisation actions for compiling PRODCOM statistics

**Contract number: 828873 — 2018-CRO-PRODCOM**

EG18 PRODCOM

Implementation period from 01/11/2018 to 30/04/2020

### Project summary

The general objective the action aims to achieve is consolidating and enabling the further evolution of the industrial production statistics by improving the tools and the methods used for compiling PRODCOM statistics and is meant to achieve in the Member States efficiency gains such as: burden reduction for respondents, coverage and quality improvements, data dissemination gains etc.

#### Specific objectives

Work area 2: Implement/improve the electronic data collection systems and the associated IT tools

Expected impacts are:

- Improved data quality achieved with the upgrading of existing electronic data collection systems by development and integration of on-line validation tools for automatic comparison filled-in values by respondents on product level with previous year's corresponding values (and asking for respondent feedback) and
- Improved feedback to respondents by enabling them to review the previous year data delivered to CBS directly in on-line system which will facilitate the reporting of the industrial production data and also raise respondents' satisfaction
- Improved communications with respondents and common understanding of PRODCOM concept/variables by adding info boxes (pop-ups) with definitions of PRODCOM variables and link to short additional survey information to the existing electronic questionnaire, which will facilitate the reporting of the industrial production data and improve data quality.

Work area 3: Implement burden reduction simplification measures, combine with the use of administrative sources or other statistical data; improve quality and in-depth product range and industry coverage

- Increase the quality of the national data by upgrading validation rules in the existing PRODCOM data processing applications with adding supplementary validation checks for all the PRODCOM variables (e.g. identifying and correcting the erroneous data values).

### Coordinator contact details

Goran Dolšak, Croatian Bureau of Statistics, [dolsakg@dzs.hr](mailto:dolsakg@dzs.hr)

## List of participants

Croatian Bureau of Statistics

## Project results

The results of project were divided in work areas 2 and 3.

Area 2: Implement/improve the electronic data collection systems and the associated IT tools

Area 3: Implement burden reduction simplification measures, combine with the use of administrative sources or other statistical data; improve quality and in-depth product range and industry coverage

The objectives in work area 2 and 3 were to improve data quality of PRODCOM statistics by upgrading the existing electronic data collection systems and implementing burden reduction simplification measures (by development and integration of on-line validation tools, adding supplementary validation checks, improving feedback to respondents and other communication tools providing definitions and explanations of required variables).

The following main activities were planned and performed: Upgrading CAWI based on-line application by developing IT tools for reviewing respondents archived data (for previous reporting year), function to open the archived data, automatic comparison and respondents' feedback in on-line application; Improving PRODCOM electronic questionnaire in CAWI based on-line application by adding info boxes (pop-ups) with definitions of PRODCOM variables and posted link to short additional survey information on respondents' request; Analysing of current validation rules, Defining advanced validation criteria and after setting up IT procedures, integrating and testing IT procedures and tools for running advanced validation criteria and designing corresponding analytical tables in the existing PRODCOM data processing applications.

The project resulted in improved electronic data collection systems and the associated IT tools and reduced respondents' burden.



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## Setting up the production and dissemination process for new indices of services production, volume of wholesale trade and volume of trade and repair of motor vehicles

**Contract number: 829081-2018CRO-B2791-STS**

EG18 STS STAT

Implementation period from 01/11/2018 to 30/04/2020

### **Project summary**

General objective for this action is to set up regular and sustainable production and dissemination process for new indices of services production, volume of wholesale trade and volume of trade and repair of motor vehicles. Work on this action would be continuation of previous projects where Croatian Bureau of Statistics (CBS) started with development and experimental calculation of new indices of services production (ISP). With this grant we would be able to continue development of ISP for some service industries that are not yet covered. That way we would be completely in line with the new FRIBS regulation.

Specific objectives are following:

- to set up methodology and conduct pilot survey for SPPI of two selected service industries in order to calculate indices to be used for ISP as deflators
- to set up methodology for compilation and experimental calculation of ISP for selected service industries
- to evaluate and improve existing procedures (IT application) and methodology for ISP in order to be prepared for regular production and dissemination.

### **Coordinator contact details**

Sanda Colić, Croatian Bureau of Statistics, colics@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

- Two SPPI surveys were designed and implemented, for NACE divisions J59 (Motion picture, video and television programme production, sound recording and music publishing activities) and N82 (Office administrative, office support and other business support activities). The SPPI indices will then be used as deflators in the calculation of ISP for these NACE activities.
- The whole statistical process of ISP calculation was implemented in the existing IT application.
- Calculation of monthly services production indices was implemented.

- In order to insure regular production of ISP calculation, standard procedure was determined.
- Experimental calculation of ISP was performed.



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## Sub national statistics

**Contract number: 08142.2017.002-2017.423**

EG17 SUB NAT

Implementation period from 01/04/2018 to 31/03/2020

### Project summary

The general objective of this action is the collection of quantitative information on the quality of life in European cities and regions in support of EU policy initiatives on urban and rural development.

Specific objectives:

1. Improving the methodology used based on experience and collected feedback
2. Increasing the comparability of results by harmonising the national and EU level definitions
3. Providing high quality statistics on sub-national level including metadata
4. Raising awareness and increasing knowledge about sub-national statistics.

### Coordinator contact details

Žaklina Čizmović, Croatian Bureau of Statistics, [cizmovicz@dzs.hr](mailto:cizmovicz@dzs.hr)

### List of participants

Croatian Bureau of Statistics

### Project results

Following activities were implemented during the project:

1) Improving the methodology used based on experience and collected feedback

CBS has explored the national methodologies and data sources for this grant.

Data from various administrative and statistical sources were used for this project:

- Data collected from the Croatian Bureau of Statistics
- Data collected by cities
- Data collected from other (state and private organizations).

In most cases, it was necessary to decide which data source would be the most appropriate.

CBS has explored the national methodologies and data sources and their coherence with the glossary (including variables and spatial unit definitions) and ESS guidelines. .

The national methodology has been improved and expanded with the current definitions and guidelines and all variables and spatial units definitions have been integrated, so that data can be collected from regional units of 6 DEURBA Cities in standard way.

The Croatian Bureau of Statistics did the comparison of data at the level of cities collected in this project with the data at higher NUTS levels (NUTS 3 - counties, NUTS 2- statistical regions) and country level NUTS 1 collected by Eurostat.

2) Increasing the comparability of results by harmonising the national and EU level definitions

CBS has prepared a report Comparing Croatian and Eurostat definitions of variables.

3) Providing high quality statistics on sub-national level including metadata

CBS has collected information from different administrative and statistical sources. In some cases we had to choose what is the best data source for usage in this project. It was not so easy in some cases. For example, for some variables we found out that data from local offices are with better quality than data provided from CBS department. But, if only one of selected towns was not able to send us data related to that variable, we decided to choose CBS as a source because coverage were more important than quality.

Data sources were the following:

- Data collected by National Statistical Office
- Data collected by city
- Data collected by others (state and private organisations)

CBS delivered metadata to Eurostat using the national reference metadata handler

4) Raising awareness and increasing knowledge about sub-national statistics



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## Implementation of a redesigned and modernised Intrastat system

**Contract number: 826854 — 2018-HR-B-2763-INTRASTAT (2018-CRO-INTRASTAT)**

EG18 INTRASTAT

Implementation period from 01/09/2018 to 29/02/2020

### **Project summary**

General objective is to carry out necessary preparatory actions which refer to the implementation of modernised Intrastat with special emphasis on preparation for compulsory micro data exchange on intra-EU exports in near future.

Specific objective of this action is to undertake preparatory activities for future compulsory micro-data exchange all in compliance with the technical and statistical requirements.

Activities which will be carried out are: modification and adjustment of existing Statistical Intrastat system in CBS, testing of new database in order to get MDE output, all necessary activities related to technical testing for MDE, testing the whole flow in acceptance environment, study visit related to preparation of MDE, pre-production using production environment via EDAMIS, management of Grant activities, monitoring, reporting and administrative tasks related to Grant implementation, preparing and delivering of Final Report. Expected results will be: national information system modified and adjusted for MDE by introducing two new fields (Partner ID and COO), capable for preparation, validation, submission of micro data, technical testing, pre-production and process of receiving, storing micro data received from other MS's. Outputs which will be produced are: modified and adjusted SIS database with creation of MDE output, exchange of simulated data in acceptance environment, exchange of micro data in pre-production.

### **Coordinator contact details**

Boro Žderić, Croatian Bureau of Statistics, [zdericb@dzs.hr](mailto:zdericb@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

To reach the goal of the project, following national activities were performed:

1. Modification and adjustment of existing HR SIS (Statistical Intrastat system in CBS) database for introducing two new fields (Partner ID and Country of Origin)
2. Testing of modified HR SIS database in order to get MDE output from the existing new modified SIS database
3. All necessary activities related to technical testing for MDE through secure network via new EDAMIS 4 using loopback mode – connection to secure network, preparation for using new EDAMIS, preparation for MDE system
4. Testing the whole flow in acceptance environment: connectivity+EDAMIS+MDE hub+format+validation (simulated data with correct MDE DSD format)

5. Pre-production – sending and receiving of micro-data using production environment via EDAMIS (depending of signing new Multilateral Agreement between MS's as well as availability of HR IT security certification - ESS IT security framework)
6. Management of Grant activities, monitoring, reporting and administrative tasks related to Grant implementation -Through the entire duration of the action

After consolidated analysis and all activities which were done in this MDE project the main conclusions are:

1. IT is decided that CBS will use TESTA network with SFTP approach for MDE.
2. HR SIS application and database are quite complex software that serves the CBS to manage Intrastat and Extrastat processing and data dissemination. IT contractor took some time to get familiarized himself with the subject matter of the SIS application to begin and finish adjustment and upgrade of the application and database.
3. Upgrading the database with two additional input fields (VAT ID of the partner operator and the Country of Origin of the exported goods) in the project was successfully and efficiently created.
4. CBS database for received exchanged files between MS's is established and ready for use.
5. CBS IT environment is ready for sending, processing and importing all future exchanged files with two new integrated fields – VAT ID and CoO. National information system modified and adjusted for MDE by introducing two new fields (Partner ID and CoO), capable for preparation, validation, submission of micro data, technical testing. Pre-production and process of receiving, storing micro data received from other MS's is almost done – final phase.
6. Following the development activities resulting for introducing two new fields financed through the Action, CBS will continue to implement these activities within national legislation through regular Annual Implementation Plan (AIP) financed through the Government Budget, thus ensuring sustainability of the results. It is essential to mention that the AIP includes all statistical surveys and activities as required by national and EU needs for official statistics.



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## Environmental accounts

**Contract number: 830923 - 2018-CRO-ENV**

EG18 ENV

Implementation period from 01/02/2019 to 31/01/2020

### Project summary

General objective

The action aims at extending the scope and improving quality of data collected under regulation (EU) 691/2011

Specific objectives

*Environmental Goods and Services Sector (EGSS):*

Specific objective regarding this module is to compile monetary environmental accounts data at a higher granularity level than required for mandatory reporting. CBS plans to further detail breakdown of EGSS data by NACE, CEPA and CreMA.

*Physical Energy Flow Accounts (PEFA):*

Specific objective is to provide data on the physical flows of energy expressed in terajoules in a way that is fully compatible with the concepts, principles, and data reported under the European System of Accounts (ESA). They record energy data in relation to the economic activities of resident units of national economies in a breakdown by economic activity. They present the supply and use of natural energy inputs, energy products and energy residuals. Economic activities comprise production, consumption, and accumulation.

### Coordinator contact details

- For EGSS - Lepčević Gordana, Croatian Bureau of Statistics, [lepcevicg@dzs.hr](mailto:lepcevicg@dzs.hr)
- For PEFA - Oršanić Kelebuž Željka, Croatian Bureau of Statistics, [orsanickelebuhz@dzs.hr](mailto:orsanickelebuhz@dzs.hr)

### List of participants

Croatian Bureau of Statistics

### Project results

Main result of the project is extending the scope and improving quality of data collected under regulation (EU) 691/2011, module Environmental goods and services sector (EGSS). Specific objective regarding the project was to compile monetary environmental accounts data at a higher granularity level than what was required for mandatory reporting, such as delivering more detailed breakdown of EGSS data by NACE, CEPA and CReMA. Few structural improvements were created, especially to data sources as well as to the collection methods that go beyond the regular data production and creation of the relevant data, which means

extension of the population of the reporting units in some NACE categories and adding new relevant products in the survey. Main deliverables were voluntary reporting variables for all the previous years and the preliminary results for the year 2018.

Specific objective regarding the project was to provide data on the physical flows of energy expressed in terajoules in a way that is fully compatible with the concepts, principles, and data reported under the European System of Accounts (ESA).

Available data sources for compilation of Physical Energy Flow Accounts tables for 2008 and 2009 were analysed and established. Additional data sources for compilation of Physical Energy Flow Accounts tables for 2008 and 2009 were established. Physical Energy Flow Accounts tables for 2008 and 2009 were compiled and established which resulted in time series scope extension.



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## PPPs Data collection 2019

**Contract number: 824783 — 2018/HR/PPP**

EG18 PPP

Implementation period from 01/11/2018 to 31/01/2020

### **Project summary**

General objective

The action aims at ensuring the provision of high quality and comparable input data for the purpose of calculating Purchasing Power Parities.

Specific objectives

The action is divided into 7 objectives:

A: Consumer goods price surveys

B: Estate agencies rents surveys

C: Capital goods price surveys

D: Hospital price surveys

E: Other PPP input data

F: PPP inventory

G: Additional tasks

### **Coordinator contact details**

Suzana Čajkušić, Croatian Bureau of Statistics, [cajkusics@dzs.hr](mailto:cajkusics@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

In implementation of project during different objectives and phases we calculated a few main outcomes: Price level indices (PLIs) which provide a comparison of countries' price levels relative to the European Union average;

Purchasing Power Parities (PPPs) are indicators of differences in price levels across countries and shows how much currency units cost a certain amount of goods and services in different countries;

Purchasing Power Standards (PPS) is an artificial reference currency unit that eliminates differences in the price level among countries and the final outcome which is the main aim of this project is GDP per PPPs which shows volumes of goods and services purchased in the countries, compare the size of economies and their levels of material well-being, consumption, investment, government expenditure and overall productivity.

The outcomes of project are used for research and analysis for statistical compilation and for administrative purposes. The users on international level are European Commission, IMF, OECD, UN and World Bank and on national level users are government agencies, universities, research institutes, public and private enterprise, financial institution, the press and individuals.

HR participated in project since 1993 and continuously for over of 25 year provide the sets of data that needed for calculation of GDP per PPPs.



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## Merging statistics and geospatial information in Member States

**Contract number: 01843.2017.001-2017.407**

EG17 GEO

Implementation period from 02/01/2018 to 01/01/2020

### **Project summary**

General objective of this Action is improving the integration of geospatial and statistical information as it offers important opportunities to maximise the utility of data collected for statistical purposes. Key phenomena which need to be precisely understood at local level also need to be more accurately measured, analysed and communicated, thus allowing policy initiatives to be better defined and monitored. Europe 2020 strategy objectives or GDP and beyond contain many aspects requiring information at local level of relevance in that context. In response to these challenges, the ESS 2020 vision states that " there is a growing need to develop statistics with increasing geographical detail to support national and regional policy making" (e.g. development, implementation, monitoring and evaluation of EU policies). The big question is "how can the portfolio of products and services of official statistics be designed to reflect these information requirements in the best possible way?"

The INSPIRE Directive (Infrastructure for Spatial Information in the European Community) will facilitate the interoperability of the geographic information as well as the Legislation on reuse of public sector information (PSI directive, 2003+2013).

The specific objectives are:

- Establishing internal and external processes which are required for a continuous automated regular update of geospatial data sources for statistics. CBS has established an internal process in the previous rounds of project "Merging statistics and geospatial information in member states" in the way that population data from demography was matched with addresses in shapefile with house numbers. Internal process was also established in the way that Administrative Register of Business Entities data was matched with addresses in shapefile with house numbers.
- Further upgrading and designing of innovative web application. To achieve this action CBS will use the existing GEOSTAT application for merging statistical and geospatial data. CBS continuously disseminates statistical data on regional level by using GEOSTAT portal and disseminates statistical data that are results of EU grants.
- Creating services on tourism data prescribed by the INSPIRE directive.

### **Coordinator contact details**

Žaklina Čizmović, Croatian Bureau of Statistics, cizmovicz@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

## Project results

The CBS carried out all planned activities within this project and main goals set at the beginning of the project had been met – creating the tourism entities gridding statistics.

Following the European practice of merging statistical data with spatial units, the CBS has merged data from two sources, the Monthly Report on Tourist Arrivals and Nights (TU-11 form) and from administrative source of the eVisitor system with the Spatial Statistical Register.

In this project, the web services WMS and ATOM were implemented for the data distribution required by INSPIRE, which is the existing demographic data available on GeoSTAT portal.



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## IT Security improvement in the ESS for the exchange of confidential statistical information

**Contract number: 828964 — 2018-CRO-IT SEC**

EG18 IT SEC

Implementation period from 01/01/2019 to 31/12/2019

### **Project summary**

General objective

This proposal is a continuation of previous proposals and plans (IT SEC16 & IT SEC17) and their technology extension that will enable secure data exchange and improve compliancy with the ESS IT security framework.

Specific objectives

To improve CBS infrastructure in order to comply with minimum requirements for the IT security framework and with the controls identified in the ESS IT security framework.

### **Coordinator contact details**

Silvio Zlopaša, Croatian Bureau of Statistics, [zlopasas@dzs.hr](mailto:zlopasas@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The procurement procedure was successfully completed. All software and licences were delivered and installed (Check Point 5400 and 5400 NGTX HA – Licence activated; Alien Vault SIEM log Analyzer - Licence activated; Vectra Cognito NGTP – Licence activated; Wallix session manager product – Licence activated).

The IT security audit was performed. The audit report was positive. The interim and final technical report were submitted. The objectives of the project were achieved. The project enabled secure data exchange and the improved compliancy with the ESS IT security framework. The project improved CBS infrastructure in order to comply with minimum requirements for the IT security framework and with the controls identified in the ESS IT security framework.



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## Statistics on the usage of Information and Communication Technologies 2019, Households

**Contract number: 831565 — 2018-CRO-ICT HH (2018-CRO-ICT HH)**

EG18 ICT HH

Implementation period from 01/11/2018 to 31/12/2019

### **Project summary**

General objective

The objective of the Action 2 is to collect and transmit accurate, reliable and representative data based on the 2019 Eurostat model questionnaire on ICT usage in households and by individuals and on Annex II of the 2018 draft Commission Regulation implementing Regulation 808/2004. The quality aspect is covered in Article 7 of (EC) No 808/2004 titled "quality criteria and reports", paragraphs 1, 2, 3 and 4. Accurate sampling design, grossing-up and minimising non-response are priorities for achieving the objective.

Specific objectives

Specific objective is delivering aggregate reliable for optional scope, breakdowns and information defined in the 2018 Draft Commission Regulation implementing Regulation (EC) No 808/2004. The objective is to collect optional variables, characteristics and breakdowns as defined in the Annex II of the 2018 Draft Commission Regulation implementing Regulation (EC) No 808/2004, as follows:

- Coverage of the optional questions of the survey to provide accurate, reliable and representative data for the the optional questions of the survey:
  - a) household income;
  - b) additional demographic characteristics;
  - c) NUTS-2 region of residence;
  - d) optional questions – B4-l, B5, D9-g, D9-h, F1-h

### **Coordinator contact details**

Hrvoje Markuš Croatian Bureau of Statistics, markush@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The project objective was to introduce the necessary measures in the data collection process to ensure obtaining accurate, reliable and representative results on the survey on ICT usage in households. Priority was to ensure the adequate sampling design and sampling frame in order to achieve reliable, representative and accurate results of the survey. To meet the

objective, improvements were made by upgrading existing electronic data collection systems (CATI/CAPI/CAWI) and integrating validation tools and adding validation checks.

Main activities focused on upgrading CAWI based on-line application to improve data collection process; redesigning and improving CATI/CAPI Blaise based data collection methods and case management system; defining advanced data validation criteria; integrating and testing IT procedures and tools for validation.

The completion of project resulted with timely transmission of complete and validated datasets; coverage of all characteristics and breakdowns complying with proposed methodology; providing quality data according to reported unit/item non-response and standard errors; quality and completeness of the Interim and Quality reports. The project is continuation of the previous Eurostat grants awarded annually for „Data collection on information society statistics“.



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## Statistics on the usage of Information and Communication Technologies 2019, Enterprises

**Contract number: 831564 — 2018-CRO-ICT ENTR**

EG18 ICT ENT

Implementation period from 01/11/2018 to 31/12/2019

### Project summary

General objective

The project aims at fulfilling the objectives related to the support of data collection on ICT usage and e-commerce in enterprises in 2019

Specific objectives

- a) Objective 1: Ensuring and increasing the quality of data collection based on the 2019 Eurostat model questionnaire on ICT usage in enterprises
- b) Objective 2: Delivering data for optional scope, breakdowns and information defined in the 2018 Draft Commission Regulation implementing Regulation (EC) No 808/2004

Tasks include collecting and transmitting accurate, reliable and representative data based on the 2019 Eurostat model questionnaire on ICT usage and e-Commerce in enterprises , as well as collect data on optional variables, characteristics and breakdowns as defined in the Annex II of the 2018 Draft Commission Regulation implementing Regulation (EC) No 808/2004, as follows:

- Coverage of the optional questions of the survey to provide accurate, reliable and representative data for the blocks of the optional questions of the survey:
  - a) Module B: ICT specialists and skills: questions B1-B5;
  - b) Module C: Internet access and use: question C3;
  - c) Module C: Internet access and use: questions C8-C10;
  - d) Module E: ICT security: question E5;
- Accurate results at national level for NACE Rev. 2 groupings which aims to produce data for the NACE Rev. 2 categories for possible calculation of European aggregates of a sufficiently high quality to allow for release at national level:

NACE Rev. 2 aggregates	NACE Rev. 2 Sub-aggregates
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10-18	10-12, 13-15, 16-18
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26-33	26, 27-28, 29-30, 31-33
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45-47	45, 46
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55	55-56
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58-63	58-60, 61, 62-63
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77-82	77-78+80-82, 79
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## **Coordinator contact details**

Hrvoje Markuš, Croatian Bureau of Statistics, markush@dzs.hr

## **List of participants**

Croatian Bureau of Statistics

## **Project results**

The project objective was to introduce the necessary measures in the data collection process to ensure obtaining accurate, reliable and representative results on the survey on ICT usage in enterprises. Priority was to ensure the adequate sampling design and sampling frame in order to achieve reliable, representative and accurate results of the survey. To meet the objective, improvements were made by upgrading existing electronic data collection systems (CAWI) and integrating validation tools and adding validation checks.

Main activities focused on upgrading CAWI based on-line application to improve data collection process; analyses of current validation rules; defining advanced validation criteria; integrating and testing IT procedures and tools for validation.

The completion of project resulted with timely transmission of complete and validated dataset; coverage of all characteristics and breakdowns complying with proposed methodology; providing quality data according to reported unit/item non-response and standard errors; quality and completeness of the Interim and Quality reports. The project is continuation of the previous Eurostat grants awarded annually for „Data collection on information society statistics“.



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## Disaggregation of the statistics on final energy consumption (FEC) in the industry sector

**Contract number: 08352.2017.004-2017.776**

EG17 FEC

Implementation period from 01/01/2018 to 30/09/2019

### **Project summary**

General objective of this action is:

- to comply with the Article 9 of the Energy Statistics Regulation (ESR – Regulation (EC) No 1099/2008 on energy statistics) by further disaggregation of the final energy consumption in the 'industry' sector in order to better follow energy consumption trends with a higher degree of accuracy to satisfy needs for increasing demand for more detailed information about energy efficiency, GHG emissions linked to energy consumption and production, renewable energy, the cost of energy, energy dependence, and economic competitiveness.

Specific objectives of this action are related to establishing breakdown keys for final energies by sector and main energy uses:

- 1) Developing the methodology, guidelines and requirements that are compatible with the subsequent collection of more disaggregated data on final energy consumption (FEC) in the Industry sector.
- 2) Setting up procedures and technical solutions for collecting the more disaggregated data on the statistics on final energy consumption (FEC) in the Industry sector according to this methodology and these requirements.
- 3) Spotting particular difficulties in applying the breaking down specifications and proposing ways to overcome these difficulties or possible alternatives in breaking down a particular field or branch.
- 4) Organize a pilot data collection exercise in order to test and adapt all relevant elements of the proposed methodology and data collection.
- 5) Propose guidelines for NSIs / ONAs to set up and / or to adapt their infrastructure in order to comply with these requirements (enabling a sustainable data collection that offers the necessary information as regards further disaggregation of the statistics on final energy consumption in the Industry sector).

### **Coordinator contact details**

Željka Oršanić Kelejuh, Croatian Bureau of Statistics, orsanickelejuh@dzs.hr

### **List of participants**

## Project results

Development of the energy statistics in accordance with Article 9 of the Energy Statistics Regulation (EC) No. 1099/2008 and enhancement of the quality level of energy consumption statistics by disaggregating final energy consumption in the industrial sector. Energy consumption indicators in the industry sector were identified and developed. Further allocation of the final energy consumption in the industrial sector. Disaggregation of the final energy consumption in the industrial sector increased the quality level of energy consumption statistics and increased data accuracy which enabled better tracking of energy flows.



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## Testing and piloting survey on Gender-Based Violence

**Contract number: 07143.2017.001-2017.682**

EG17 VIOL

Implementation period from 01/11/2017 to 30/09/2019

### **Project summary**

#### *General objective*

Development of the EU-wide survey on gender-based violence.

#### *Specific objectives*

Topic 1: translation of the questionnaire and pre-testing

Translating and pre-testing the draft questionnaire.

Topic 2: conducting a pilot survey on GBV at national level

Conduct of a small-scale gender-based violence pilot survey at national level in order to prepare the final common questionnaire and methodology to be implemented in EU Member States.

Topic 3: comparing the methodology to conduct GBV survey at national level with the proposal of common methodology of EU-wide survey

Comparing the methodology to conduct crime survey on administrative data (embedding, among others, criminal offences connected to GBV) at national level with the proposal of common methodology of EU-wide survey.

### **Coordinator contact details**

Mario Vlajčević, Croatian Bureau of Statistics, vlajcevicm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Topic 1: translation of the questionnaire and pre-testing

Translating and pre-testing the draft questionnaire.

Eurostat has developed, in coordination with the Member States and other stakeholders, an English version of the survey questionnaire to be piloted in countries interested to do so. In order for the pilot to be implemented, it had to previously be translated into national languages. Therefore, Croatian Bureau of Statistics had made a Croatian translation of the questionnaire. Due to the fact that the survey was very specific, and having in mind potential terminological influences on the manner one can comprehend a survey question or answer modality, the

Croatian version of the questionnaire was revised by an expert with the knowledge in the field of gender-based violence or violence against women.

#### Topic 2: conducting a pilot survey on GBV at national level

Conduct of a small-scale gender-based violence pilot survey at national level in order to prepare the final common questionnaire and methodology to be implemented in EU Member States.

Final Croatian version of the GBV questionnaire was tested in the field, by means of outsourcing (following a public procurement procedure). More concretely, two Blaise applications were prepared, one for CATI and one for CAPI data collection methods. Each data collection method has been tested on a separate sample of 800 respondents (samples were not nationally representative). No minimum response rate was required, but the application of standardised procedural rules for each data collection methods was foreseen (i.e. 10 telephone calls for CATI and 3 visits to households for CAPI, all in different days and in different part of the day, in case no contact was made in prior calls/visits or if appointment was scheduled).

Following aspects were tested: sampling, including target population: limitations covering younger/older age groups and inclusion of both women and men in the survey; testing the training of interviewers and methods to ensure interviewers safety; testing the fieldwork including interviewing modes, treatment of non-response, methods to ensure respondent's safety/privacy; testing the quality control and reporting; testing data management, coding and transmission.

#### Topic 3: comparing the methodology to conduct GBV survey at national level with the proposal of common methodology of EU-wide survey

Comparing the methodology to conduct crime survey on administrative data (embedding, among others, criminal offences connected to GBV) at national level with the proposal of common methodology of EU-wide survey.

Within this topic, an analysis of the extent to which different methods of data collection affected the different statistical rates in relation to the offenses covered by the pilot survey was made.

In addition, although samples used for pilot exercise were not nationally representative, Croatian Bureau of Statistics took action to map definitions of different types of violence covered by the GBV pilot survey with applicable national criminal offences and certain misdemeanours, in order to establish in any manner to connect the two definitional frameworks (at least in part, if not entirely). This is because, unlike victimization data, there are well established administrative crime statistics in Croatia and, although survey data and administrative data are not directly comparable (due to, for example, methodological differences, reference time, „dark number“ of victimization instances caught by the survey, etc.) it can possibly enable theoretical analysis of the trends in crime prevalence for certain types of criminal phenomenology. The analysis indicated that the usage of administrative data for this purpose and for crimes embedded by GBV survey is not statistically feasible in any significant extent.



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## ESS.VIP on administrative sources (ESS.VIP.BUS.ADMIN)

**Contract number: 822288 - 2018-HR-ESS.VIP.ADMIN**

EG18 ADM

Implementation period from 01/09/2018 to 31/08/2019

### **Project summary**

General objective

The general objective is to ensure better use of administrative sources and data.

#### *Activity 1 - Tourism data*

1. Analysis of available administrative data from eVisitor system
2. Analysis of available administrative data from Tax Register
3. Analysis of available data from Croatian National Bank
4. Analysis of available data from Population Census 2011
5. Analysis of available data from NSI Survey on Tourist Activity of the Population of the Republic of Croatia
6. Development of methodology for estimation of data on residents and non-residents staying in non-rented accommodation
7. Deriving main variables
8. Drafting an interim methodological report
9. Drafting final methodological report
10. Management of grant activities
11. Other activities

#### *Activity 2 - Water statistics*

1. Analyses of current situation of water statistics;
2. Analyses of available administrative data;
3. Taking over administrative data from all available sources;
4. Establishing a new system of data collection on water statistics;
5. Developing and implementing new IT software;
6. Improving the co-operation and coordination between the statistical and environmental administrations;
7. Drafting an interim report;
8. Developing/applying estimation methods;
9. Establishing and using measures for data accuracy, other topics suggested by the potential beneficiaries and positively evaluated by Eurostat;
10. Management of grant activities;
11. Drafting final methodological report.

### **Coordinator contact details**

For Activity 1 - Tourism data - Ivana Brozović, Croatian Bureau of Statistics, brozovici@dzs.hr



## List of participants

Croatian Bureau of Statistics

## Project results

### Tourism data

During the project „Producing new statistics by combining several sources where at least one is administrative data“ new data sources were identified and analysed in order to improve coverage of eVisitor data in the segment of non-rented (non-commercial) accommodation. Some of them did not fulfil the aim for which they were intended, while others brought some new information.

The following sources were analysed and examined in order to produce more quality and reliable data on residents and non-residents staying in non-rented (non-commercial) accommodation:

- Administrative data from eVisitor system
- The Croatian Bureau of Statistics (CBS) Survey on Tourist Activity of the Population of the Republic of Croatia
- The Croatian National Bank (CNB) survey on expenditures of foreign visitors in Croatia
- The available administrative data from Tax Register on paid taxes on second homes – holiday houses and apartments
- The available data from Population Census 2011.

The key issues identified during the project implementation and lessons learned are the following:

- The lack of a register of dwellings (including the second homes) in Croatia.
- A general issue of the lack of metadata with administrative data sources and other secondary data sources.
- The importance of thorough analysis and understanding of the administrative data metadata, where available, because a knowledge on data coverage, data units, definitions of variables, and how the administrative data were processed is necessary for a correct use of administrative data for statistical purposes.

The general conclusion of this activity is that the new data sources analysed in this project, both, secondary and administrative ones, do not provide a base of a sufficient quality which can be used to improve the current estimations of tourist traffic in non-commercial accommodation provided by eVisitor.

CBS will, therefore, continue with the current way of monitoring tourist arrivals and overnight stays in non-commercial accommodation on a yearly basis, based on eVisitor data. However, parallel to that CBS will continue to cooperate with relevant administrative data owners in order to improve a coverage of the non-commercial tourism traffic, to increase data quality and data comparability among different administrative sources.

In addition, the following activities are foreseen in order to enable more quality estimates of the non-commercial tourism traffic in Croatia in the future:

- To establish an agreement between CNB and CBS regarding micro-data on the number of non-resident overnights realized in non-commercial accommodation in Croatia;
- To establish an agreement between Tax Administration in the municipalities and CBS regarding data on second home taxpayers in Croatia;
- To continuously cooperate and send feedback to relevant administrative sources in order to improve quality of data they provide;
- To conduct ad-hoc survey to provide data on the average level of use of second homes per year (occupancy). So far, there is no administrative source for this data.



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## PPPs data collection 2017-18

**Contract number: 04152.2016.001-2016.162**

EG16 PPP

Implementation period from 01/11/2016 to 31/07/2019

### **Project summary**

The overall purpose of the Eurostat/OECD Purchasing Power Parities (PPP) program is to provide users with high quality PPPs and related economic indicators.

The Croatia has to achieve the specific objectives in line with the Eurostat PPP work plan deadlines as established annually by the PPP Working Group. When executing the tasks, the Croatia shall follow Regulation (EC) No 1445/2007 of the European Parliament and of the Council of 11 December 2007, establishing common rules for the provision of basic information on Purchasing Power Parities and for their calculation and dissemination, as well as the methodological manual on PPPs and specific instructions given by Eurostat.

The aim of the pre-survey work, countries' meetings, missions to the countries and possible neighbouring country visit is to enable the creation of a balanced European item list containing a sufficient number of available and representative items for each country. The meetings are expected to increase mutual understanding of the specific methodological requirements of the surveys and to improve the comparability of the survey results by exchanging knowledge and best practices concerning markets, products, price collection and pre-survey in the countries.

The aim of the price collection and consequent validation work is to get a data set with a sufficient number of price observations per available item for each survey. Spatial adjustment coefficients are used to convert the capital city average prices into the national average prices of each item for which prices have been observed.

The main objectives are:

- Objective A: Consumer goods price surveys (composed of 6 tasks)
- Objective B: Estate agencies rent survey (the aim is to provide validated capital city rentals data sets for 2017 and 2018)
- Objective C: Capital goods price surveys (the aim is to provide validated construction and equipment goods price data including necessary metadata for the construction surveys carried out in 2017 and 2018 and the equipment goods price survey carried out in 2017).
- Objective D: Hospital price survey (the aim is to provide Eurostat with validated hospital price data including necessary metadata for the survey carried out in 2017 and 2018).
- Objective E: Other PPP data (the aim is to provide Eurostat with data needed for the PPP calculation, i.e. on GDP expenditure weights, VAT, tips, actual and imputed rents, compensation of government employees and CPIs)
- Objective F: PPP Inventory (the aim is to submit to Eurostat an inventory of national methods and sources used in the PPP exercise in case of change occurred in the period following the submission of the most recent document version)
- Objective G: Additional tasks (includes a number of tasks that are useful in the context of the PPP programme and are on the voluntars basis)

After completion of the project, Eurostat will be able to establish reliable PPP for the participating countries, using the input data which countries provided under the project. This will provide a sound basis for the allocation of the structural funds and the establishment of the correction coefficients, as well as a basis for general macro-economic analysis.

### **Coordinator contact details**

Suzana Čajkušić, Croatian Bureau of Statistics, cajkusics@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The actions covered by this PPP Grant EG16 2017-2018 and carried out by the CBS are: E17-1 survey (completed), E17-2 survey (completed), E18-1 survey (completed), E18-2 (completed), Equipment goods survey 2017 (completed), Construction survey 2017 (completed), Hospital survey 2017 (completed), Construction survey 2018 (completed), Hospital survey 2018 (completed) , Estate agency rent survey 2017 and 2018 (completed), CBS submitted other PPP input data in 2017 and 2018 (completed), up-date Inventory in 2017 (completed) and in 2017 (completed) also CBS participated on four CGS countries meetings, and on multy - country construction meeting, received one coordinators visit in 2017 and translated four chapters of PPP manual.



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## Modernisation actions for compiling PRODCOM statistics

**Contract number: 06124.2017.001-2017.279**

EG17 PRODCOM

Implementation period from 03/04/2018 to 02/07/2019

### Project summary

General objective

The general objective of the action is further improvements of the tools and the methods used for compiling PRODCOM statistics and is meant to achieve in the Member States efficiency gains such as: burden reduction for respondents, coverage and quality improvements, data dissemination gains etc.

Specific objectives

Area 1: Implement/improve the electronic data collection systems and the associated IT tools

Expected impacts are:

- Improved communications with the units providing data (and data quality) by upgrading and making more efficient paradata system and developing functionalities for easy handling feedback to respondents on comments/questions posted in PRODCOM on-line data collection system
- Improved electronic data collection systems by developing automatic tools for the identification of PRODCOM products over CN codes which better describe PRODCOM products and also well known by the responding units carrying out both, the production and export (all or part of their production) within EU or outside EU would facilitate and ease the reporting of the industrial production data and their correspondence with external trade nomenclature

Area 2: Implement burden reduction simplification measures, combine with the use of administrative sources or other statistical data; improve quality and in-depth product range and industry coverage

Expected impacts are:

- Improved coverage and quality of industrial production data by developing IT tools for combining PRODCOM data with external trade data to be used for achieving a completing coverage of industrial products from the point of view of industrial product range under the scope of the PRODCOM and the units active in the industrial sectors who are both, producers and exporters.
- Burden reduction for respondents by development estimation methods and IT tools for increase the representativeness level using external trade data where appropriate while respecting the quality criteria
- Achievement of better consistency and integration (including quality) of industrial production data with related external trade data by development IT tools for confrontation of PRODCOM data with external trade data (where appropriate) and by development PRODCOM database Eurostat-like also users satisfaction

## Coordinator contact details

Goran Dolšak, Croatian Bureau of Statistics, [dolsakg@dzs.hr](mailto:dolsakg@dzs.hr)

## List of participants

Croatian Bureau of Statistics

## Project results

Implement/improve the electronic data collection systems and the associated IT tools was introduced and all foreseen activities were successfully carried out:

PARADATA system was improved by grouping respondent comments on data provided and/or other issues, and procedure for reviewing them by statisticians was developed in CBS web-based IT application which was upgraded for handling the respondents paradata.

Identification by using CN codes with PRODCOM correspondences in respect with reference year and associated measurement units in online PRODCOM application was developed and integrated in existing CBS web-based IT application.

Implement burden reduction simplification measures, combine with the use of administrative sources or other statistical data; improve quality and in-depth product range and industry coverage was implemented, all foreseen activities were successfully carried out. In this regards following activities were performed:

PRODCOM data for 2017 have been compared with INTRASTAT/ EXTRASTAT data for 2017 by using correspondence tables. For that purpose, database was created which contains match and unmatched INTRASTAT/EXTRASTAT under PRODCOM coverage to enable analyses. Conclusions on possibilities to replace PRODCOM data with INTRASTAT/EXTRASTAT data from both perspectives, unit/product coverage improvements and/or reduction response burden was drawn and included in final methodological report.

The quality of PRODCOM was improved by using External trade data on unit level. For that purpose, the database containing matched PRODCOM data with External trade data for 2017 on the level of units was created. The data was deeply analysed taking into account methodological difference. The comparison happened to be very comprehensive and required lot of resources especially in the cases where relation with both nomenclatures are n:m. Nevertheless, procedures for automatic creation of PRODCOM database was established and methodological consideration on possibilities to improve PRODCOM data with External trade was drafted and included in final methodological report.



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## Support for Statistical Literacy actions in the area of a competition, gamification and e-learning

**Contract number: 825962-2018-HR-LITERACY**

EG18 STAT LIT

Implementation period from 01/07/2018 to 30/06/2019

### **Project summary**

The general objective of the action is to enhance the ability of young people to understand official statistics as well as to continue raising students' awareness of the presence of statistical data in everyday life, which is essential for their future careers. As information and knowledge are building blocks of all modern societies, it is important that official statistics, as an authority in the field of promoting statistical literacy, offer an information infrastructure and knowledge to the young generation that will evolve into the future decision makers. The improvement of statistical literacy among public, which includes students as well, can be achieved by offering new products in an intelligent and interactive way with the focus on proactive communication.

CBS will carry out the activities related to Objective (1) - Supporting – in particular a first time - the implementation of the European Statistics Competition (ESC) at national level.

By organisation and implementation of the European Statistics Competition for students at the national level, the CBS ensures the achievement of the following objectives:

- establishing the national phase of the European Statistics Competition as a well-known, within the academic community respected, competition, conducted on a regular basis
- continue promoting curiosity and interest in statistics among students, especially aiming at those counties of the Republic of Croatia in which the application rate was the lowest during the first implementation of the national phase of ESC
- designing and producing new educational materials promoting the use of real data and continue encouraging teachers to use them for teaching statistics
- organising workshops in schools during the registration period in order to raise not only interest in this competition, but statistics in general, and continue showing the role of statistics to students and teachers in various aspects of society
- continue promoting teamwork and collaboration to achieve common goals
- raise public awareness, interest in statistical data and official statistics, as well as active participation in the future efforts to include statistics in the curriculum to a larger extent

### **Coordinator contact details**

Kristina Balun, Croatian Bureau of Statistics, [balunk@dzs.hr](mailto:balunk@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

## Project results

The Croatian Bureau of Statistics (CBS) as the main authority in the field of statistics has put additional efforts in promoting statistical literacy by offering an information infrastructure and knowledge to the young generation that will evolve into the future decision makers. The improvement of statistical literacy among public was achieved by offering new products in an intelligent and interactive way with the focus on proactive communication. All actions were in line with main objectives indicated in the call, namely “(1) to raise interest and promote the ESS in the educational sector, as well as (2) to help young people understand and interpret statistics”. The specific objectives of grant activities were to raise public awareness, interest in statistical data and official statistics, as well as active participation in the future efforts to include statistics in the curriculum to a larger extent. The expected result of these actions was organisation and implementation of the European Statistics Competition (ESC) at the national level, as a competition that raise awareness and promote statistics among a specific part of the educational sector (students and teachers).

The CBS, by organisation and implementation of the ESC at the national level, has ensured the achievement of the following objectives:

- establishing the national phase of the European Statistics Competition as a well-known, within the academic community respected, competition, conducted on a regular basis
- continuous promotion of curiosity and interest in statistics among students, especially aiming at those counties of the Republic of Croatia in which the application rate was the lowest during the first implementation of the ESC at the national level
- designing and producing new educational materials promoting the use of real data and further encouraging the teachers to use them for teaching statistics
- organising workshops in schools during the registration period in order to raise not only interest in this competition, but statistics in general, and to continue showing the role of statistics to students and teachers in various aspects of society
- promoting teamwork and collaboration to achieve common goals
- raising public awareness, interest in statistical data and official statistics, as well as active participation in the future efforts to include statistics in the curriculum to a larger extent

During the first- time organisation of the European Statistics Competition at the national level (during school year 2017/2018), the CBS has established connections with potential participants within the educational sector by direct contact with upper secondary schools on the territory of the Republic of Croatia. The feedback from participants was extremely positive and the result of the overall promotion was 520 teams and more than 1 500 participants (teachers and students). When the registration period has ended, a user satisfaction survey has been conducted and answers were used to improve 2018/2019 edition. The collaboration with institutions from the educational sector has been continued in order to fulfil the general objective, which is the promotion of statistical literacy among students, i.e. to introduce statistics in the national curriculum, because the presence of statistics in upper secondary schools is very low. Especially, the opportunity was seen in the partnership with the Ministry of Science and Education that has been successfully continued, as well. The promotional campaign through different communication channels (social media, printed materials) has proven to be very useful, so special emphasis was put on those activities once again and visual identity has been applied to all promotional materials to ensure already well known visibility of the competition. Special website dedicated to the European Statistics Competition at the



national level which has been developed as a central point where all potential participants are able to gather relevant information regarding partnerships, funding, regulations, application, actual competition and the results, was updated with new information considering the new edition of the competition. The team consisting of in-house experts, as well as experts from the educational sector, has designed the national test. The national jury was composed of public figures, i. e. individuals professionally related to statistics and well known among the young generation, who evaluated second round of the competition by clear assessment criteria.



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## Interoperability Pilots - Steps towards implementing the European System of Interoperable Statistical Business Registers (ESBRs)

**Contract number: 11172.2017.002-2017.610**

EG17 ESBRs

Implementation period from 01/01/2018 to 30/06/2019

### **Project summary**

General objective:

The objective of ESBRs project is the improvement of the quality of the national SBRs and EGR 2.0 to provide ESS statisticians with adequate statistical frames for producing relevant and consistent business statistics at national and European level.

General objective of this action (project) is to contribute to ESBRs project with testing and describing national practice in one part of the interaction between national SBR and EGR and to contribute to raising communication with EGR and exchange of the data on higher technical level.

Specific objectives of the project:

The specific objective of the project is to test selected elements of interoperability and to describe national practice in using EGR data and own experience in data exchange with EGR

These best practices are expected to lead to further integration of the network of SBRs and therefore strengthen their backbone role.

Four areas of interest have been identified for the interoperability pilots, in order to cover the success criteria of the business case: Data exchange; Collaboration and governance, Timing/calendar; Quality.

### **Coordinator contact details**

Zrinka Uglešić, Croatian Bureau of Statistics, [uglesicz@dzs.hr](mailto:uglesicz@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

In this PILOT, CBS wanted to test how to set up automatic generation of selected output files in SDMX-ML format for data exchange with EGR in SDMX-ML format, and submit some files (resident and non-resident units for identification) to the EGR IS.

This was successfully done, and two data sets were sent to the EGR IS (resident and non resident LEUs) via eDamis.

SBR team sent 4702 non-resident LEUs to the EGR IS testing module, which were part of the active MNEs (parent or subsidiary). 87% of non resident units were identified, and the rest of 13% were not identified because the unique identifier LEID ID was not found. The reason for not identifying could be the different legal form, different address of the non resident unit etc.

SBR team used many public available registers for the suspicious units, which could not be found in the EGR IS. New public available links were found all the time, and they are used in the regular production EGR cycle.

This project showed that collaboration between all MS is essential for succeeding the ESS VIP project European System of Interoperable Business Registers (ESBRs). The collaboration is placed in force and is done now during the production EGR cycles.



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## Labour Force Survey 2018 ad-hoc module on reconciliation between work and family life

**Contract number: 07131.2017.001-2017.189**

EG17 LFS AHM

Implementation period from 01/09/2017 to 31/05/2019

### **Project summary**

The purpose of the action is to implement 2018 LFS ad hoc module on reconciliation between work and family life.

General objectives of the action are:

- valid implementation of Ad hoc module 2018 in accordance with the Commission Implementing Regulation (EU) 2016/2236 of 12 December 2016 aiming to deliver accurate and comparable data to Eurostat.
- increasing comparability of the results, by using the proposed model questionnaire

Aim of the 2018 ad hoc module is to:

- establish to what extent the availability of suitable care services for children and other dependent persons influences people's participation in the labour force,
- analyse the degree of flexibility offered at work, from the point of view of reconciling work and family life,
- identify career breaks linked to taking care of children or other dependent persons, in particular parental leave, and to analyse their duration

### **Coordinator contact details**

Marina Munitić, Croatian Bureau of Statistics, muniticm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

National methodology was developed in line with Commission Implementing Regulation (EC) No 2016/2236 and other relevant documents provided by Eurostat. Model questionnaire proposed by Eurostat was translated to Croatian language and adjusted to national circumstances as well as methodological guidelines for interviewers.

Software programme for Ad hoc module data collection was developed. Ad hoc module has been carried out within Labour Force Survey using CAPI and CATI interviewing mode.

Outputs produced and delivered to Eurostat were:

- Interim technical report with description of the steps taken in the preparation of the fieldwork
- Micro database containing the national statistical data of the survey transmitted to Eurostat in accordance with Regulation (EU) 2016/2236
- Quality report



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## Passenger mobility and road traffic

**Contract number: 08361.2017.002-2017.667**

EG17 ROAD

Implementation period from 02/01/2018 to 01/05/2019

### **Project summary**

In the context of an ongoing concern for the environment, continuing increases in demand of transport, growing congestion problems, emissions of (road) transport vehicles, the amount of traffic and traffic accidents, spatial implications of traffic and transport and energy accounts, data on road traffic volumes are of increasing importance in the Croatia and in Europe. Currently, there is no regulated and harmonised data collection of road traffic statistics on EU level.

At the moment in Croatia the estimation of road traffic volumes is based on traffic counts at state roads: manual and automatic counters combined with some estimations.

To use centrally available data on vkm from odometer readings of technical control of vehicles, Eurostat and MS defined a set of indicators that can be constituted using aggregated information from odometer readings. Furthermore, the link of data from technical inspections with information of the certificate of conformity of vehicles and the car registration may provide very detailed road traffic data. A second component of road traffic statistics is information where traffic takes place.

The general objective of the action is to support the development and production of harmonised road traffic statistics based on odometer readings, as well as to identify the type of road network where road traffic takes place in combination with other available sources.

Specific objectives are:

- to support the development of the production of road traffic statistics and to collect detailed aggregated vkm by age group, based on odometer readings as it proposed in the list of indicators in Table 2. Statistics will be produced for all vehicle categories according age of the vehicle (note: vehicle category M2 Mini buses will be included under category M3 Buses and coaches). Subcategories according to fuel type will be produced according to information available in National Vehicles Register and its link with roadworthiness test database.
- to identify possibilities of improving data collection and to collect available statistics on road traffic on national and foreign territory and by type of road where traffic takes place according to proposed indicators in Tables 3 and 4. Further investigation is required to explore and collect available data on representation on road traffic by type of road and by territory. Combining odometer readings with existing data sources will make it possible to comply fully or partially with proposed tables 3 and 4.

### **Coordinator contact details**

Šakić Pokrivač Korana, Croatian Bureau of Statistics, sakick@dzs.hr

## **List of participants**

Croatian Bureau of Statistics

## **Project results**

The result of this project was development and production of harmonised road traffic statistics based on odometer readings, as well identification of the type of road network where road traffic takes place in combination with other available sources.

Detailed data on realised vehicle-km of vehicles registered in the country by age, vehicle category and type of fuel for years 2014, 2015 and 2016 were delivered to Eurostat and later published by CBS.

During the course of project, existing national surveys were explored in order to improve data collection and to collect available statistics on road traffic.

## Improvement of the use of administrative sources (ESS.VIP ADMIN WP6 pilot studies and applications)

**Contract number: 07112.2017.007-2017.443**

EG17 ESS.VIP ADMIN WP6

Implementation period from 01/11/2017 to 30/04/2019

### **Project summary**

General objective:

Extending/improving the use of administrative data sources.

Specific objectives:

#### *Objective 1*

Tourism in Croatia occupies an important place in the economy. Assessment of importance and necessity for the economy requires understanding the scope of tourism and its characteristics. One of the key areas for delivering the ESS Vision 2020 is new data sources. "How do we get there?" By replacing a traditional source with administrative source in the production of official tourism statistics from supply side.

The specific objectives of the Objective 1 are:

- to set up methodology for greater and better use of administrative data in statistical production;
- to provide tools for assessing the quality of the statistical outputs based on administrative data source;
- improving Statistical register of accommodation establishment using administrative data source.

#### *Objective 2*

The specific objective of the Objective 2 is:

- Data that is available in administrative sources and is appropriate for statistical use will be analysed and engaged in statistical production to improve quality and completeness of business register and better compliance with EU regulations. Use of new administrative sources for the purpose of updating of Statistical Business Register and making better use of sources which has already been used will improve statistical frame consisting of enterprises and their local units and will enable production of new types of statistics. Adding new global business identification number (LEI) to business register data will enable linking of administrative and statistical business register data.

#### *Objective 3*



The Croatian Bureau of Statistics has developed a portal named GeoSTAT thanks to which users can for the first time, use data from the Croatian Bureau of Statistics in an interactive way. The mentioned application enables cartographic presentation of statistical data in such a way that the selected level is combined with the selected statistics to the smallest detail. Specifically, for now users will be able to track the demographic data of the 2011 Census even at 1 square km cell size. By using interactive maps, it will be easier for everyone interested in spatial tracking of the movements of individual statistical indicators to monitor the available statistical indicators, in addition to the standard paper form of first releases and publications.

As for the presented variables, users are able to search data from the 2011 Census of Population, Households and Dwellings on the map according to the following criteria: by age and sex, by highest educational attainment, by activity or the data on average age of the population. In addition, some of the data from the statistical areas of agriculture, national accounts and business register are available at the GeoSTAT portal. In addition, users can perform a spatial search of the data on average monthly gross and net earnings by sex and by counties, and will also be able to follow the structure of persons in paid employment by sex, at the level of towns and municipalities.

The ADMIN project combines a theoretical dimension (methodological development, integration and dissemination of statistical methodology, quality indicators etc.) and a practical dimension aiming to implement tangible results of the theoretical work through pilot studies and applications. The INSPIRE Directive (Infrastructure for Spatial Information in the European Community) will facilitate the interoperability of the geographic information as well as the Legislation on reuse of public sector information (PSI directive, 2003+2013). In this project, the Croatian Bureau of Statistics will be developed metadata registry for spatial data on the GeoSTAT portal. The CBS is one of the subjects of the NSDI Croatia and interested to disseminate certain information, described by metadata and develop network services that are in line with the INSPIRE requirements. All of the above will be implemented on the platform of the Geoportal.

The specific objective of the Objective 3 is:

- Implementation of metadata register in accordance with NSDI and INSPIRE requirements. The Central Bureau of Statistics will improve the use of administrative data sources.

### **Coordinator contact details**

Žaklina Čizmović, Croatian Bureau of Statistics, [cizmovicz@dzs.hr](mailto:cizmovicz@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Within the project following activities were completed:

*Objective 1 - Improvement of the use of administrative source in tourism*

1. Preparing cooperation agreement with the administrative data owners
2. Improving the Statistical Register of Tourist Accommodation Establishments
3. Producing data on tourist occupancy using administrative data source
4. Deriving new variables
5. Producing document about the process components
6. Other activities - study visit to Poland

*Objective 2 - Improvement of accuracy of statistical business register*

1. New administrative sources
2. Revision of already used administrative sources and their processes
  
3. Development of methodology for estimation of number of employees in local units

*Objective 3 – Implementation of metadata register*

1. Developing metadata registry for spatial data
  - 1.1. Disseminating and describing data on GEOSTAT portal in line with the INSPIRE requirements
  - 1.2. Developing system for creating and managing metadata harvesting which is able to communicate with the NSDI geoportal and metadata catalogue
2. Drafting an interim methodological report for all three objectives
3. Drafting final methodological report for all three objectives



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## European profiling - Steps towards implementing the European System of Interoperable Statistical Business Registers (ESBRs)

**Contract number: 11172.2017.003-2017.339**

EG17 PROF

Implementation period from 01/01/2018 to 31/03/2019

### **Project summary**

General objective:

Improving the consistency and quality of the information on the largest multinational groups (MNEs) operating in Europe (and their constituent statistical units) in the national SBRs and in the EGR.

Specific objectives of the project:

- Develop expertise in the profiling of large MNEs in Europe
- Test the implementation of the updated methodology of European profiling which resulted from the work of the dedicated Task Force Profiling
- Test if synergy between the 'European' approach ' and the 'national' approach shall be achieved and if the final profiling results will be better aligned with user needs
- Identify and measure benefits for CBS derived from European profiling in terms of better delineation of statistical units in the national SBRs and in terms of information collected

### **Coordinator contact details**

Zrinka Uglešić, Croatian Bureau of Statistics, [uglesicz@dzs.hr](mailto:uglesicz@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

In this grant, CBS tested IPT (version 2018), which has been improved from the first year of using it, with focus on the improved methodology of profiling made by Task Force (TF) on Profiling.

CBS's profiling team profiled 3 Global Enterprise Groups (GEGs) having their Global Decision Centre (GDC) located in Croatia for first intensive and light profiling, and 3 GEGs for follow-up (which have been profiled in the Eurostat for 2015 "ESS.VIP ESBRs 2015 Individual grants - Implementation of interoperable business registers".

In the partnering profiling exercise CBS's profiling team have profiled 28 Groups from 10 different participating countries.

CBS profiling team tested the synergy between “European approach” and the “national approach”, and it was found very useful. Profiling helped CBS a lot to see the complete GEG structure, to find GEN’s, and national ENT’s. Benefits derived from European profiling in the terms of better delineation of statistical units in the national SBR are of a great value.

This project was very challenging as it involved teamwork, not only in the NSI, but also among all Member states and Eurostat



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## Implementation of Business Architecture for ESS validation

**Contract number: 11103.2017.006-2017.722**

EG17 BUSINESS ARCH

Implementation period from 01/02/2018 to 31/01/2019

### Project summary

General objective

- General objective of this project is fostering the implementation of the ESS Validation in CBS

Specific objectives

- Specific objective of the project is to detect readiness of some statistical domains from CBS Croatia to implement ESS Validation policy (validation rules and ESS existing tools for validation). ESS validation policy is understood as an upgrade to SDMX initiative, so as such is expected to lead the further integration and comparability of European statistics.
- Also, to make analysis of key principles for validation within CBS (the sooner, the better; trust but verify; good enough is new perfect, etc.)

### Coordinator contact details

Nevena Jerak Muravec, Croatian Bureau of Statistics, jerakn@dzs.hr

### List of participants

Croatian Bureau of Statistics

### Project results

As results of the Action, project team detected status of the data validation process within CBS statistical domains and assessed the maturity to implement scenarios of the Business Architecture for ESS validation. Technical specification for the adaptation of CBS technical infrastructure was defined and actions for improvement of CBS validation process was proposed and elaborated.



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Data collection on ICT usage and e-commerce in enterprises 2018“ (Action 1) and “Data collection on ICT usage in households and by individuals“ (Action 2)

**Contract number: 06163.2017.003-2017.476**

EG17 ICT ENT

Implementation period from 01/11/2017 to 31/12/2018

### **Project summary**

The objectives of the project:

*Data collection on ICT usage and e-commerce in enterprises in 2018:*

To collect accurate, reliable and representative data based on the 2018 Eurostat model questionnaire on ICT usage and e-Commerce in enterprises and on Annex I of the 20173 draft Commission Regulation implementing Regulation 808/2004. Moreover, the objective is to transmit the aggregated data to Eurostat in the format provided by Eurostat, respecting the quality criteria and covering optional variables/breakdowns.

*Data collection on ICT usage in households and by individuals in 2018:*

To collect accurate, reliable and representative data based on the 2018 Eurostat model questionnaire on ICT usage in households and by individuals, and on Annex II of the 20174 draft Commission Regulation implementing Regulation 808/2004. Moreover, the objective is to transmit the micro-data to Eurostat in the format provided by Eurostat, respecting the quality criteria and covering optional variables/breakdowns.

The expected results for each of the actions are harmonised, reliable and representative data on ICT usage in enterprises, and in households and by individuals for the year 2018 as well as benchmarking indicators for Monitoring the Digital Economy & Society 2016-2021.

### **Coordinator contact details**

Hrvoje Markuš, Croatian Bureau of Statistics, [markush@dzs.hr](mailto:markush@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Harmonised, reliable and representative data on ICT usage in enterprises, and in households and by individuals for the year 2018 as well as benchmarking indicators for Monitoring the Digital Economy & Society 2016-2021 were transmitted to Eurostat.



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## Support for statistical literacy actions in the area of a competition, gamification, e-learning

**Contract number: 11102.2017.009-2017.553**

EG17 STAT.LITERACY

Implementation period from 01/07/2017 to 31/12/2018

### **Project summary**

The general objective of the action is to enhance primarily the ability of young people to understand official statistics as well to raise students' awareness of the presence of statistical data in everyday life and prepare them for a career in today's "age of information". This is planned to be achieved by offering a variety of modern, technology driven and divergent products and services through communication and dissemination channels at both national and European level.

The support for statistical literacy, as a part of the project Digital communication, User analytics and Innovative products (DIGICOM), aims at modernisation of communication and dissemination of European statistics, that will be achieved by exploring and developing innovative dissemination products and services based on experiences within the ESS and concrete needs of European statistics users. As information and knowledge are fundamental building blocks for all modern societies, it is important that official statistics offers an information infrastructure that responds to the needs of different user groups with different needs. The improvement of official statistics responsiveness to the new user needs can be achieved by offering access to the data in an intelligent and interactive way with the focus on proactive communication.

The Croatian Bureau of Statistics (CBS) recognized the importance of DIGICOM project and by active involvement in work packages 1 (User Analysis) and 4 (Communication and Promotion) is trying to enhance the agility and responsiveness to our users' needs.

### **Coordinator contact details**

Kristina Balun, Croatian Bureau of Statistics, balunk@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

First action regarding implementation of national phase of European Statistical Competition (ESC), was to establish connections with the potential participants within the educational sector by direct contact with the upper secondary schools and universities on the territory of the Republic of Croatia, in order to encourage them to apply. Furthermore, to ensure the best impact possible, CBS has taken advantage of already existing partnerships with institutions from the educational sector, i.e. University College Algebra, which has a long tradition in the



field of education, e-learning and digitalization. For maximizing the results of the activity, CBS has also included in promotion Croatian Statistical Association due to their significant influence in the field of promoting statistics and science in general. The national test was designed by the team consisting of in house experts, as well as experts from educational sector in order to guarantee comparability and fairness for the European final part of the competition. Starting with the kick-off event, CBS has actively promoted the activity through different communication channels (social media, CBS web site, print materials) and by organizing special events on a national level during the whole registration period, i.e. from October 2017. until the end of January 2018. Furthermore, the visual identity of national phase of ESC was designed and applied to all promotional materials to ensure the visibility of the competition. As well, a special web site was dedicated to competition, where the potential participants were able to gather all relevant information regarding partnerships, funding, regulations, application, actual competition and at the end, the results itself. As planned, national jury was set up from different educational institutions, private sector and the CBS. In house IT experts have adapted the technical platform for the competition into the national language. Competition was organized and implemented in a way that interested parties have taken online test by connecting to the platform which was integrated on specialized web site. Clear assessment criteria adapted to the other participating NSIs to guarantee comparability and fairness for the European final part of the competition, were prepared for the national jury.

The action was conducted and implemented by CBS, with the support of the partners and has covered the following activities:

1. Establishing connections with the educational sector
2. Designing and coordinating the national test
3. Adapting national test to guarantee comparability and fairness for the European final part of the competition
4. Promoting the activity
5. Setting up a national jury
6. Adapting and translating the technical platform for the competition into the national language
7. Organising and implementing the competition at national level
8. Evaluating the test answers in cooperation with the jury, select the winners and award the prizes
9. Reporting on the activity of the European Statistical Competition national phase and its impact
10. Management of grant activities, monitoring, reporting and administrative tasks related to grant implementation.



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## IT security improvement in the ESS for the exchange of confidential statistical information

**Contract number: 11162.2017.003-2017.767**

EG17 IT SECURITY

Implementation period from 16/12/2017 to 15/12/2018

### **Project summary**

General objective

To enable the secure data exchange and to improve compliancy with the ESS IT security framework.

Specific objectives:

To improve CBS infrastructure in order to comply with minimum requirements for the IT security framework and with the controls identified in the ESS IT security framework.

### **Coordinator contact details**

Silvio Zlopaša, Croatian Bureau of Statistics, zlopasas@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Procurement of IT equipment and installation:

- Server, Desktop computers with monitor, Storage system
- Central communication Router
- NGTP & SandBlast Appliance for High Availability
- Endpoint Protection solution for personal computers

The IT security audit was performed during December 2018. The documentation (Audit of the information security system in accordance with the contract) was submitted to Eurostat.



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## Price statistics - methodological and practical improvements and developments / Real estate indicators

**Contract number: 04151.2016.005-2016.608**

EG16 PRICE STAT

Implementation period from 01/01/2017 to 30/09/2018

### **Project summary**

The general objective:

The general goal is to undertake research on the exploitation of scanner data and web scraping as the new sources of price information replacing manually collected price quotes at outlets which would improve current methods and be of benefit for further ESS development in the field of CPI/HICP.

The specific objectives are:

- to undertake research on the automatic linking to the GTIN or shop specific codes to ECOICOP (objective 1.A)
- to obtain and implement scanner data from supermarkets or other retailers as a source of information (objective 1.B)
- to undertake research on the use of web-scraping as automatically collected price data from the Internet as a source for the HICP (objective 1.D)

### **Coordinator contact details**

Sanja Jurleka, Croatian Bureau of Statistics, [jurlekas@dzs.hr](mailto:jurlekas@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

#### *Scanner data*

**In the frame of objective 1.A (Automatic linking of GTIN codes/shop specific codes to ECOICOP) the following results are achieved:**

**- existing approaches of MSs already using linking the GTIN or shop specific codes to the ECOICOP are reviewed, examined and analyzed**

**- a detailed methodological descriptions and technical specifications for the implementation of the proposed activity are prepared**

**- the quality and feasibility of the activity in connection with available/additional data sources is assessed**

- appropriate model for linking the GTIN/shop specific codes to the ECOICOP is developed

- software tool for linking the GTIN/shop specific codes to the ECOICOP is developed

In the frame of objective 1.B (Implementing scanner data from supermarkets or other retailers) the following results are achieved:

- a detailed methodological descriptions and technical specifications for the implementation of the proposed activity are prepared

- a system for secure scanner data acquisition is developed

- the pricing sample to integrate of scanner data in the production system is defined

- methods for integration, storing and processing scanner data into the HICP production process are developed

- methodological solutions for the compilation of price data are examined and developed

#### *Web scraping*

In the frame of objective 1.D (Web scrapping as a source for the HICP) the following results are achieved:

- a detailed methodological descriptions and technical specifications for the implementation of the proposed activity are defined

- the target product groups and relevant Internet sites are identified

- technical and legal aspect of data sources are verified

- specific IT software tools for web scrapping and for parsing unstructured scraped data are examined and tested

- possible technical solutions for regular production are assessed



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## Action plan for EU-SILC improvements

**Contract number: 07142.2016.001-2016.489**

EG16 EU SILC - IMPR

Implementation period from 01/09/2016 to 30/09/2018

### Project summary

The general objective of this action is to improve the data availability of the whole EU-SILC in order to fulfil high-level policy need for more timely data.

Specific objectives of this action are related to adaption of production process and will be carried out throughout these activities:

- Testing the use of administrative data source, namely Tax Administration register
- Improvements/optimization of the production process namely data editing process and imputation process and rescheduling of the field work

### Coordinator contact details

Hrvoje Žagmeštar, Croatian Bureau of Statistics, [zagmestarh@dzs.hr](mailto:zagmestarh@dzs.hr)

### List of participants

Croatian Bureau of Statistics

### Project results

The use of administrative data sources will contribute to improvement of timeliness but also improvement of accuracy with reduction of non-response rates and incorrect answers. Reducing number of questions in EU-SILC questionnaire and shortening the duration of the questionnaire will lead to reducing the burden on respondents.

Main deliverables are:

- updated SILC sample by using actual administrative data (database Ministry of Interior)
- multi-mode data collection – CAPI and CATI; survey in Blaise program was adjusted, and additional training of interviewers was held to explain all changes. Proxy interview was not allowed. All household members aged 16 and over (eligible for personal interview) which were not present during the first CAPI/CATI interview were interviewed later CAPI/CATI.
- assigning the Personal Identification Number (PIN) to all surveys persons. This process of PIN assigning was completed after the fieldwork, when the actual household composition was recorded and all household members were listed by name and surname and date of birth. This process contributes to the efficiency and quality of the data because it is a prerequisite for joining the all-necessary administrative databases and will be used for further regular SILC surveys.

- multi-mode data collection – using administrative data. JOPPD is special form created by Tax administration in which all payments in Republic of Croatia are recorded by each person. All payments are coded according to coding books made by Tax administration. For SILC purposes, payments from JOPPD form are grouped by person, by predefined type of payment and paired with defined income SILC variables.
- multi-mode data collection – using administrative data. Ministry of Demography, Family, Youth and Social Policy database contain list of persons for some social benefits which were paired with defined income SILC variable.
- use of additional administrative databases - Croatian Pension Insurance Institute (CPII) database was used for coding of occupations and economic activity (NACE classification) for all active persons in SILC
- use of additional administrative databases - Croatian Health Insurance Fund was used for comparison and crosschecking with answers from survey regarding persons status (employment or self employment, or retirees..)
- recommendations are made as the base for decision making for implementation of multi-mode collection methods as well as administrative data sources in regular EU-SILC



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## Modernisation of the Harmonised European Time Use Survey

**Contract number: 07141.2017.001-2017.356**

EG17 TUS

Implementation period from 01/12/2017 to 31/08/2018

### **Project summary**

General objective of this project is to contribute to the work on the modernisation of the European Time Use Survey.

Specific objectives:

- to study, test and outline the changes in the design of HETUS with regard to subjective well-being, as well as in the mode of data collection and processing;
- clarify concepts in order to achieve a greater degree of harmonisation across countries in line with the on-going projects on modernisation of social surveys.

### **Coordinator contact details**

Mario Vlajčević, Croatian Bureau of Statistics, vlajcevicm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The action consisted of four main activities:

1. Review of international experiences related to subjective well-being survey items, scales of answers as well as influence of parallel activities on the respondents and their subjective well-being attitudes.
2. Designing subjective well-being survey items and scales of answers and making of adequate instructions for the identification of parallel activities
3. Testing of diaries with included well-being and multitasking related survey items (taking into account the results acquired within activity 2)
4. Analysis of data collected

Analysis resulted in number of recommendations for future work, out of which stand out

- Proposal for sending mail in advance to selected households with the information that they will be visited by interviewers
- To organize the training for the interviewers and controllers for the fieldwork
- Interviewers should be under the constant control and supervision by the fieldwork controllers during the period for the fieldwork
- Fieldwork controllers and interviewers should take care of the coverage of the selected households
- Fieldwork controllers and interviewers should take care of the fulfilment of the diaries
- To organize the reliable training for the coders of the activities in diaries and to prepare unique codebook

- The rules of logical controls should be included in the Blaise application for data entry
- Coders should stay in touch during the code process due to challenges or unpredictable moments which could raise up
- Speaking about the diary coding phase, trained coders should hold regular weekly meetings and keep consultations by e-mail with the main idea being to keep the standardized and unique procedures for problematic activities
- Survey material should be successively collected on a weekly basis
- Survey diaries should be successively coded and entered
- Subjective well-being could be measured in a variety of ways. For the emotional components, survey measures feelings of joy and pleasure. The cognitive component of subjective well-being measures satisfaction and fulfilment in various life domains or activities. All in all, both components, emotional and cognitive, make complex global approach of the individual well-being
- An overall conclusion of this pilot survey is that bipolar scale provided more reliable and trusted source of data



## Contribution of the European Union to farm structure survey 2016

**Contract number: 08411.2015.002-2015.662**

EG15 FSS

Implementation period from 01/09/2015 to 30/06/2018

### **Project summary**

General objective of the action is developing and improving agricultural statistics systems, giving an overall picture of the structure of agriculture in a country, and allowing wide-ranging analyses of the overall situation in agriculture and with the censuses being one of the most used means for setting up the sampling frames for the other agricultural statistical surveys.

Eurostat's database Euro farm containing the results from the Farm Structure Surveys and/or Agricultural Census is a key instrument in the design and monitoring of the Common Agricultural Policy.

The integration of the results from the farm structure surveys and/or Agricultural Census into Euro farm is an additional task which has to take place after the conduction of these surveys in the European Union.

### **Coordinator contact details**

Predrag Cvjetičanin, Croatian Bureau of Statistics, [cvjeticaninp@dzs.hr](mailto:cvjeticaninp@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

FSS Database record and the National Methodological Report were submitted to the Eurofarm base according to Eurostat format on 30th December 2017.



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## Implementation of a redesigned and modernised Intrastat system

**Contract number: 06151.2017.001-2017.246**

EG17 INTRASTAT

Implementation period from 24/06/2017 to 23/06/2018

### **Project summary**

#### **General Objective:**

General objective of this proposal is to support National Statistical Authorities (NSA's) compiling statistics on intra – EU trade in goods to carry out tasks related to the implementation of the modernised Intrastat. A possible future full implementation of the new modernised concept would considerably reduce the administrative burden on business subjects liable to report for Intrastat. It will also create new opportunities to reduce the administrative burden for PSI's in Intrastat reporting, keeping in mind the quality of intra-EU trade data.

#### **Specific Objective:**

Specific objective of this action is to investigate all possibilities, analysis how to reduce administrative burden on PSI's considering the present set (mandatory and optional) of Intrastat data collected by HR. Improvements of data collection and reporting tools, analyse and evaluate the impact on the quality of national trade data and their use in statistics on the basis of obtained results. Investigation and analysis of possibility and potential simplification to data elements to be collected as well as to investigate and analyse potential simplification thresholds, all in compliance with the current Intrastat legislation.

#### **Coordinator contact details**

Boro Žderić, Croatian Bureau of Statistics, zdericb@dzs.hr

#### **List of participants**

Croatian Bureau of Statistics

### **Project results**

After consolidated analysis and obtained results CBS decided for potential implementation of next:

- In future, not collecting SV, but compile it via invoice value and correction factor – when FRIBS come into force (foreseen January, 2020).
- Delivery terms, Mode of transport and CoO – CBS will continue to collect it because of important national needs as it is explained before.
- Communication between PSI's and CBS should still be continued in a way of organising meetings by the end of this year and beginning of 2019. CBS should provide all necessary information to all stakeholders at last in the mid of 2019. Based on that each stakeholder can be prepared for Intrastat modernization and future MDE, especially collecting of two new variables (Partner ID and CoO). CBS still needs new fresh information so we can start organising and informing all stakeholders and prepare them all for MDE.

- Simplification measures – CBS decided not to implement simplification up to 6% of total values because it is not convenient and appropriate for HR.
- On the other side, CBS decided to implement simplifications measures related to small individual transactions what will significantly reduce administrative burden for PSI's by the time FRIBS come into force (January 2020).
- Reducing threshold for importers from 80 – 85 % should be still under consideration and in cooperation with CA - Intrastat Department depending on financial, practical and IT possibilities, CBS will decide in future how to implement it in Croatian Intrastat system.



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## Setting up production processes for new indices of services production

**Contract number: 06131.2017.001-2017.173**

EG17 STS Stat

Implementation period from 01/06/2017 to 31/05/2018

### **Project summary**

General objective of this action is:

- to set up the process for a regular and maintained production and transmission of indices of services production at NACE Rev. 2 division level.

Specific objectives of this action are:

- to set up methodology for compilation of ISP
- to calculate experimental ISP for selected services industries

### **Coordinator contact details**

Josipa Kalčić Ivanić, Croatian Bureau of Statistics, [kalcicj@dzs.hr](mailto:kalcicj@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Methodology for ISP calculation for specific service activities was defined. Dedicated IT application was developed which allows us to perform all needed operations in order to produce regular monthly ISP. Detailed testing and analyses have been performed. Series of ISP on the base years 2010 and 2015 were established starting with reference year 2010. Seasonal adjustment have not been planned within this project because of lack of resources, but we are considering to apply it in the future.



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## Labour Force Survey 2017 ad hoc module on self-employment

**Contract number: 07131.2016.001-2016.310**

EG16 LFS

Implementation period from 01/09/2016 to 31/05/2018

### **Project summary**

The purpose of the action is to implement the 2017 LFS ad hoc module on self-employment.

The ad hoc module 2017 is composed of three sub-modules :

1. Economically dependent self-employment
2. Working conditions of self-employed people
3. The self-employed and employees

The general objectives of the action are:

- valid implementation of AHM 2016 in accordance with Commission Implementing Regulation (EU) 2016/8 of 5 January 2016 aiming to deliver accurate and comparable data to Eurostat
- increasing the comparability of results, by the use of the proposed model questionnaire

The aim of the 2017 ad hoc module is to:

- identify the population of economically dependent self-employed people
- analyse self-employed people's working conditions and their main reasons for becoming self-employed,
- compare the attitudes and outlook of self-employed people with those of employees, e.g. level of job satisfaction, work autonomy etc.

### **Coordinator contact details**

Marina Munitić, Croatian Bureau of Statistics, muniticm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

National methodology was developed in line with Commission Implementing Regulation (EU) 2016/8 and other relevant documents provided by Eurostat. Model questionnaire proposed by

Eurostat was translated to Croatian language and adjusted to national circumstances as well as methodological guidelines for interviewers.

Software programme for Ad hoc module data collection was developed. Ad hoc module has been carried out within Labour Force Survey using CAPI and CATI interviewing mode.

Outputs produced and delivered to Eurostat were:

- Interim technical report with description of the steps taken in the preparation of the fieldwork
- Micro database containing the national statistical data of the survey transmitted to Eurostat in accordance with Regulation (EU) 2016/8
- Quality report



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## Improvement of the use of administrative sources (ESS.VIP ADMIN WP6 pilot studies and applications)

**Contract number: 07112.2016.004-2016.588**

EG16 ADMIN

Implementation period from 17/11/2016 to 16/05/2018

### **Project summary**

General Objectives:

- To determine the reliability of administrative sources for individual variables, i.e. to determine whether a variable exists for one or more sources, if there are multiple sources, to establish the way to take over data from multiple sources;
- To make greater/better use of administrative sources;
- To explore issues that will be of interest for potential development and generalisation.

Specific objectives:

1. To test additional main administrative sources with a potential to be utilised in future statistical operations, primarily with the view of gradual harmonisation of their elements with statistical quality requirements (definitions, rules for up-dating, identifiers used and their applicability, connections with other data-bases, geographical coverage, etc.)
2. Testing of all databases from administrative sources that are available to update the reference base (Census 2011)

### **Coordinator contact details**

Damir Plesac, Croatian Bureau of Statistics, plesacd@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Following activities were implemented during the project:

- 1.1 Methodological analysis of databases of the Ministry of Interior; Potential source of data by residence of statistical units; internal and external Migration;
- 1.2. Methodological analysis of databases of the Ministry of Finance
- 1.3. Methodological analysis of database of insured persons of the Croatian Pension Insurance Institute

- 1.4. Methodological analysis of database of insured persons of the Croatian Institute for Health Insurance
- 1.5. Methodological analysis of the State Geodetic Administration (SGA) databases
- 1.6. Methodological analysis of metadata-base administrated within the Ministry of Administration
- 1.7. Test database of Ministry of science and education (e-register)
- 2.1. Testing matching procedures of aiming to determine missing identifiers
- 2.2. Annual estimates of population on the basis of data influence on the number of population (birth, deaths, external migration)
- 2.3. Upgrade population estimates with data on territorial distribution population (use of individual data on internal migration)
- 2.4. Testing the possibility of establishing of register of employment on the basis of data providers defined in point (1)
- 2.5. Explore the possibility of methodological solutions for deriving data on the families within the household on the basis on relation to the reference person of the household.



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## Passenger mobility and road traffic statistics

**Contract number: 08363.2016.002-2016.651**

EG16 PASSENGER

Implementation period from 02/01/2017 to 01/05/2018

### **Project summary**

The 2011 White Paper on Transport takes on challenge of seeking a deep transformation of the transport system into a more environmentally sustainable model without sacrificing its efficiency and compromising mobility, which are vital elements for growth and well-being in the European Union. More precisely, certain indicators need to be developed and calculated to allow adequate monitoring of the performance and evolution of passenger travel by road, particularly car passenger transport. National travel survey could be a very detailed source of data about passenger mobility and could be very useful for monitoring White Paper goals. Passenger mobility survey could provide very valuable information for determining and evaluating GHG emission policies and alternative technologies, as well as for transport and environmental modelling.

The general objection of the action is to collect with survey, harmonised statistics on passenger mobility and produce the indicators included in the Eurostat guidelines based on harmonised definition, for the reference year 2017.

The action is divided into two modules.

#### *Module 1. Passenger mobility statistics*

Specific objective is to set-up dedicated passenger mobility pilot survey in Republic of Croatia to collect relevant statistics for producing the list of indicators listed in table 1. of Technical specifications of the action, using the prescribed methodology and definitions, to gain the knowledge and experience for the future work in passenger mobility statistics.

#### *Module 2. Passenger mobility – analysis and publication of results*

Specific objective is to produce a report in the form of a publication describing in detail the survey approach methodology used, the survey implementation process and obtained results as well as suggestions for improvement of the survey methodology and definitions.

### **Coordinator contact details**

Snježana Kos, Croatian Bureau of Statistics, [koss@dzs.hr](mailto:koss@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

## Project results

The survey was conducted using the CAPI method (Computer Assisted Personal Interviewing). The basic aim of Croatian travel survey is to survey the transport behaviour of Croatians population. Target population are persons aged 15-84 living in private households.

Activities performed:

1. Procurement procedure for subcontracted activities and selection of required service provider was carried out.
2. Available methodological documents has been studied, sampling and preparation for data collection.
3. Data weighting and production of Eurostat indicators listed in Table 2 and Table was carried out during the March 2018.
4. Data collection activities was carried out from 1st September till 5th December 2017 and data consistency checks during the survey and data editing were performed

Deliverables sent to Eurostat:

- Interim technical Report – September 2017
- Delivery of Table 2 and Table 3 with 2017 data– April 2018
- Detailed final technical report describing in detail the survey approach, methodology used the survey process and obtained results. Report contained suggestions for improvement of the survey methodology and definition covered in Eurostat guidelines based on Croatian experience obtained from the pilot survey – April 2018
- CAPI questionnaire, leaflets and table with information of non-response by FUA

## Lessons learned

The respondents praised the subject of the survey and the interviewers emphasized that was really refreshing, new and different survey.

The major lessons learnt from this project was that there is a need for better explanation about the difference between stages and trips and there is a need to pay better attention on reporting return trips.

One of the potential important improvements in the survey is asking the respondents not only for one day trips (either a weekday, either a weekend) but for two days (weekday and weekend trips).

The most difficult project item regarding CAPI method for data collection is predefined interviews on the exact dates for exact addresses and the rule of three returns on the same address.



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## Modernisation actions for compiling PRODCOM statistics

**Contract number: 06124.2016.001-2016.398**

EG16 PRODCOM

Implementation period from 03/01/2017 to 02/04/2018

### Project summary

The general objective of the action is further introduction of the burden reduction measures for PRODCOM statistics and the accommodation and implementation of the new data requirements for PRODCOM under FRIBS.

Specific objectives of this action are as follows:

- Prepare for the use of the kind-of-activity unit (KAU) as observation unit in PRODCOM
- Implement FRIBS simplification measures, combined with the use of administrative sources

### Coordinator contact details

Goran Dolšak, Croatian Bureau of Statistics, [dolsakg@dzs.hr](mailto:dolsakg@dzs.hr)

### List of participants

Croatian Bureau of Statistics

### Project results

The use of the kind-of-activity unit (KAU) as observation unit in PRODCOM was prepared and required output/ deliverables produced:

- Quality impact of the move from current observation units (enterprises and LU) to the KAUs for survey year 2016 (in comparison with 2015) – only for EU components of the PRODCOM survey was calculated
- Document with conclusions on the impact of the move from current PRODCOM observation units (enterprises and LU) to the KAUs for two successive years (reference years 2016 and 2015) only for EU components of the PRODCOM survey was prepared.

FRIBS simplification measures, combined with the use of administrative sources was implemented and required output/ deliverables produced:

- Methodological document on the future application of estimation procedures in PRODCOM statistics was drafted and disseminated through CBS Intranet
- Document describing increased usage of selected administrative data and other secondary sources data for production of PRODCOM statistics with impact on reduce burden on SMEs was drafted
- Metadata report for PRODCOM 2016 was completed, sent for validation and finally published 05.01.2018. (Metadata Handler)



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## Improvement of the quality of EU census (2021 and post-2021)

**Contract number: 07121.2016.005-2016.759**

EG16 CENSUS

Implementation period from 01/01/2017 to 31/03/2018

### **Project summary**

The main objective of the action is to test new technologies for data collection (CAWI and CAPI), on approximately 20 enumeration areas (containing approximately 2 000 households). Sampled statistical units will be initially addressed with the information letter with the instruction to fill in census forms using CAWI (Computer Assisted Web Interviewing). Respondents who decline CAWI will be contacted by an interviewer who will collect the data using CAPI (Computer Assisted Personal Interviewing).

The action aims to test methodological, organisational and other relevant elements needed for the potential full implementation in order to determine whether such a mixed mode data collection would be plausible for the implementation in 2021 Croatian census.

Additionally, this project should allow investigating the feasibility and quality of not only mixed mode data collection, but also data transmission, integration, processing and validation using a dedicated Case Management System.

### **Coordinator contact details**

Damir Plesac, Croatian Bureau of Statistics, plesacd@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Pilot Survey for Quality Improvement of Census 2021 was conducted. The overall aim of the pilot study was to test new ways of data collection and data quality, as well as the applicability of software solutions for the Census of Population, Households and Flats in 2021.



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## Preparation for the revision of EU-SILC - Testing of rolling modules in EU-SILC 2017

**Contract number: 07142.2015.003-2016.137**

EG16 SILC -TEST

Implementation period from 01/11/2016 to 31/03/2018

### **Project summary**

The purpose of the action is to implement and to test the future rolling module variables related to labour according to specifications of the ESS Agreement.

The general objectives of the action are:

- valid implementation of the ESS Agreement in line with EU-SILC standards at national level
- to deliver high quality data completed with all metadata needed for quality assessment

The aim of the testing module related to labour is to provide following:

- information on economic activity that covers to the main and last job of the respondent according the classification NACE rev.2
- information on main activity across the reference period with split off modality of unemployment
- information on social insurance coverage and labour market history

### **Coordinator contact details**

Hrvoje Žagmeštar, Croatian Bureau of Statistics, [zagmestarh@dzs.hr](mailto:zagmestarh@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The action Preparation of the revision of EU-SILC – Testing of rolling modules in EU-SILC 2017 fulfilled its purpose: the future rolling module variables related to labour are implemented, tested and overview of the findings and results are presented in this report.

Testing module related to labour fulfilled the aim of the testing and provides:

- information on economic activity that covers to the main and last job of the respondent according the classification NACE rev.2
- information on main activity across the reference period with split off modality of unemployment
- information on social insurance coverage and labour market history.

There is space for improvement regarding explanatory notes which could provide more detail of methodological aspects in order to ensure better understanding of the very point of some questions, as for interviewers so for the respondents.



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## Data collection for sub-national statistics (mainly cities)

**Contract number: 08141.2015.002-2015.603**

EG15 SUB-NAT

Implementation period from 01/04/2016 to 31/03/2018

### Project summary

The general objective of this action is the collection of quantitative information on the quality of life in European cities and regions in support of EU policy initiatives on urban and rural development.

Specific objectives:

1. Improving the methodology used based on experience and collected feedback
2. Increasing the comparability of results by harmonising the national and EU level definitions
3. Providing high quality statistics on sub-national level including metadata
4. Setting up and adapting infrastructure to integrate information on territorial typologies into the annual LAU lists delivery
5. Raising awareness and increasing knowledge about sub-national statistics.

### Coordinator contact details

Žaklina Čizmović, Croatian Bureau of Statistics, [cizmovicz@dzs.hr](mailto:cizmovicz@dzs.hr)

### List of participants

Croatian Bureau of Statistics

### Project results

During the project CBS has tested harmonised European definitions that are available on CircaBC. National methodologies and guidelines have been compared and recommendations to improve the glossary have been provided.

Croatian Bureau of Statistics prepared an extensive document Data collection for Sub National statistics - Final report.

For this project CBS has compiled the variables for the different spatial units (city, functional urban area and national level) for seven cities included in the grant: Zagreb, Rijeka, Pula, Split, Slavonski Brod, Osijek, and Zadar. Spatial unit greater city was not applicable for Croatia.

All of the variables were collected and compiled for reference years 2015 and 2016.

After the data for the grant were collected, CBS checked and validated the data for reference years 2015 and 2016.



Full consistency between the data collected in the frame of this project and the data available at the upper NUTS levels and country level available on Eurostat website should be fulfilled

Full consistency between the data collected in the frame of this project and the data available at the upper NUTS levels and country level available on Eurostat website is fulfilled.

Transmitting the data via eDAMIS to Eurostat in a standardised format. Meta information will be included in form of standardised flags as used by Eurostat.

Data for the reference years 2015 and 2016 has been transmitted to Eurostat via eDAMIS in a standardised format.

Providing a description of the collected data (e.g. data source, methodology used to estimate the variables etc.) The expected result is metadata covering all data provided including the quality assessment of the data using National Reference Metadata Editor (NRME)

After the data for the reference years was collected, CBS entered the metadata using National Reference Metadata Editor (NRME).



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## Merging statistics and geospatial information in Member States

**Contract number: 08143.2015.001-2015.715**

EG15 GEOSPAT

Implementation period from 04/01/2016 to 03/01/2018

### Project summary

General objective of this Action is improving the integration of geospatial and statistical information as it offers important opportunities to maximise the utility of data collected for statistical purposes. Key phenomena which need to be precisely understood at local level also need to be more accurately measured, analysed and communicated, thus allowing policy initiatives to be better defined and monitored. Europe 2020 strategy objectives on GDP and Beyond contain many aspects requiring information at local level of relevance in that context.

The specific objectives are:

- to establish internal and external processes which are required for a continuous automated regular update of geospatial data sources for statistics. CBS has established internal process in the previous round of project "Merging statistics and geospatial information in member states" in the way that population data from demography was matched with addresses in shapefile with house numbers. This dataset can also be used in this round of the project.
- designing of innovative web application. To achieve this action CBS will use STAGE application for merging statistical and geospatial data. On this application CBS already disseminated following data: total population, population by age groups and gender but in future also other statistical data will be disseminated.

### Coordinator contact details

Žaklina Čizmović, Croatian Bureau of Statistics, [cizmovicz@dzs.hr](mailto:cizmovicz@dzs.hr)

### List of participants

Croatian Bureau of Statistics

### Project results

Gridding statistics on business entities have been created. Data from business register have been analysed as well as address points.

In order to accomplish the final goal, the Croatian Bureau of Statistics used several data sources, mostly from CBS or SGA. The application for address coding in the Statistical Business Register was used as an auxiliary tool.

All data matching was carried out by using the MS SQL tool. The final version of the matched data of the Register of Business Entities and geospatial information were transferred into the ArcMap by using the MS Access database by applying a standard, join data procedure. The final version of the matched data of the Register of Business Entities and geospatial

information were transferred into the ArcMap by using the MS Access database by applying a standard, join data procedure.

All types of business entities gridding statistics have been disseminated on CBS website GEOSTAT portal.



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## Link Business Demography to data on trade by enterprise characteristics (TEC)

**Contract number: 06123.2016.001-2016.341**

EG16 TEC

Implementation period from 02/01/2017 to 01/01/2018

### **Project summary**

Establishing a system that would enable production of new statistics by combining already produced statistical data in the areas of Business Demography, International Trade in Goods and Structural Business Statistics.

Enabling production of new statistics by linking business demography (BD) statistics to international trade in goods statistics by enterprise characteristics (TEC) to obtain information on exports and imports of young enterprises. Adding other specified international trade in goods characteristics to describe activities of young enterprises within international trade. Combining selected SBS and BR data with BD-TEC data to calculate indicators on the economic performance of young exporting and importing enterprises compared to other trading and non-trading enterprises in SBS.

### **Coordinator contact details**

Zrinka Pavlović Croatian Bureau of Statistics, pavlovicz@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Following activities were performed:

1. Studying methodologies of subject statistics
2. Investigation and analysis of available data sources within national statistics institute; Getting acquainted with format, structure and other characteristics of the source data, Investigation and testing of data linking possibilities, methodological work
3. Investigation and testing the possibilities of production of all required breakdowns
4. Data modelling and design of BD-TEC database
5. Modelling of data export needed for the project from data sources
6. Technical implementation of the database and uploading of source data
7. Creating the output procedures and tables
8. Testing
9. Control and analysis of results
10. Preparing of requested Reports
11. Providing of methodology report
12. Delivery of data to Eurostat

Ten data sets were produced and delivered to Eurostat via eDamis. Results were validated through several editing controls.

In general, CBS has been able to link data of Business Demography, International Trade in Goods and Structural Business Statistics and form a quality and sustainable MDL system.



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## Setting up production processes for new indices of services production

**Contract number: 06131.2016.001-2016.222**

EG16 ISP

Implementation period from 01/10/2016 to 31/12/2017

### **Project summary**

General objective of this action is:

- to set up the process for a regular and maintained production and transmission of indices of services production at NACE Rev. 2 division level.

Specific objectives of this action are:

- to set up methodology for compilation of ISP
- to calculate experimental ISP for selected services industries

### **Coordinator contact details**

Sanda Colić, Croatian Bureau of Statistics, colics@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Under this project a lot of work on establishing new indicator (ISP) has been done. Methodology for ISP calculation for specific service activities was defined. Dedicated IT application was developed which allows CBS to perform all needed operations in order to produce regular monthly ISP. Detailed testing and analyses have been performed. Series of ISP on the base years 2015 were established starting with reference year 2010.



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## Statistics on the usage of Information and Communication Technologies 2017

**Contract number: 06163.2016.003-2016.448**

EG16 ICT ENT

Implementation period from 01/11/2016 to 31/12/2017

### **Project summary**

The objective of the Action 1 is to collect accurate, reliable and representative data based on the 2017 Eurostat model questionnaire on ICT usage and e-Commerce in enterprises and on Annex I of the 2016 draft Commission Regulation implementing Regulation 808/2004. Moreover, the objective is to transmit the aggregate reliable data to Eurostat in the format provided by Eurostat, respecting the quality criteria and covering optional variables/breakdowns.

The objective of the Action 2 is to collect accurate, reliable and representative data based on the 2017 Eurostat model questionnaire on ICT usage in households and by individuals and on Annex II of the 2016 draft Commission Regulation implementing Regulation 808/2004. Moreover, the objective is to transmit the micro-data to Eurostat in the format provided by Eurostat, respecting the quality criteria and covering optional variables/breakdowns.

### **Coordinator contact details**

Hrvoje Markuš, Croatian Bureau of Statistics, markush@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Results of the Action 1 are:

- Data collection based on Eurostat model questionnaire on ICT usage and E-Commerce in Enterprises completed;
- Aggregated data on ICT usage and E-Commerce in Enterprises delivered to Eurostat;
- Report on the metadata, as referred to in Article 6 of Regulation (EC) No 808/2004 which follows the report template, submitted to Eurostat;
- The quality report, as referred to in Article 7(4) of Regulation (EC) No 808/2004 which follow the report template, submitted to Eurostat;
- Final report on implementation and final financial statement.

Results of the Action 2 are:

- Data collection, based on Eurostat model questionnaire on ICT usage in households and by individuals, completed;

- Micro-data on ICT usage in households and by individuals, as required in transmission format document, delivered to Eurostat;
- Report on the metadata, as referred to in Article 6 of Regulation (EC) No 808/2004 which follow the report template, submitted to Eurostat;
- Quality report, as referred to in Article 7(4) of Regulation (EC) No 808/2004 which follows the report template, submitted to Eurostat;
- Final report on implementation and final financial statement.



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## Improvements in ESSPROS statistics

**Contract number: 07156.2015.001-2016.637**

EG16 ESSPROS

Implementation period from 01/11/2016 to 31/12/2017

### **Project summary**

The aim of this action was:

- Enhanced timelines by more efficient methodological analysis of data sources
- Enhanced timeliness through improved integration with other statistical processes

The main aims were to be accomplished via following operational objectives

- Analysis of qualitative data of other countries in order to find types of missing benefits
- Desk- study on available material of other potential data sources
- Cooperation with Croatian National Accounts - revision of implementation of accrual principle
- Testing of the plausibility of the anticipated data delivery to Eurostat
- 

### **Coordinator contact details**

Mario Vlajčević, Croatian Bureau of Statistics, vlajcevicm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The main project activities were:

1. Analysis of qualitative data of other countries in order to find types of missing benefits
2. Desk-study on available material of other potential data sources
3. Cooperation with Croatian National Accounts - revision of implementation of accrual principle
4. Data transmission – testing of the plausibility of the anticipated data delivery to Eurostat

The influence of this project for the ESSPROS statistics is really significant, because especially local level is too diverse and the number of potential reporting units is so large that it would not be feasible to gain comprehensive data by simply using the resources of the Croatian Bureau of Statistics ESSPROS team. Likewise, unlike social security funds and ministries, for the local level it would be hard to expect some sort of register of beneficiaries with detailed data and breakdown in the future.

This activity showed and proved the ability of the reporting units to deliver the statistical data and metadata for the ESSPROS N-1 year.



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## Environmental Accounts 2016

**Contract number: 05121.2016.001-2016.271**

EG16 ENV

Implementation period from 01/01/2017 to 31/12/2017

### **Project summary**

Policy interest concerning the environmental sector is high. It focuses on growth potential, employment creation, environmental technologies exports, competitiveness, research and development for cleaner and resource efficient technologies and goods and other environment related-issues.

In order to respond to policy interests and help to implement potential measures directed towards the development of the environmental sector, there is a need to compile statistics on this sector.

The general objective of the action is to develop methods to implement two modules included in the Regulation (EU) No 691/2011: Environmental Goods and Services Sector (EGSS) and Physical Energy Flow Accounts (PEFA).

### **Coordinator contact details**

Željka Kovaček Čuklić, Croatian Bureau of Statistics, [cuklicz@dzs.hr](mailto:cuklicz@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Calculations, processing and analysis of data for filling the EGSS tables and questionnaire were used with this methodology: Handbook on Environmental Goods and Service Sector, 2016 Practical guide on Environmental Goods and Services Sector accounts, 2016.

The basic source of data for compilation of EGSS tables was data collected in the Environmental Goods and Services survey undertaken by the CBS, data from the National Accounts as well as the Financial Agency in Croatia (Fina).

Data were collected by surveying most environment related units in Croatia as well as all the major business entities that generated environmental products and services, scattered over all NACE classes; economic activities by the NACE Rev. 2 A\*21 aggregation level as set out in ESA 2010, and by grouped CEPA and CReMA classes.

The CBS unit conducted a central sample survey on 3700 establishments (KAUs) for reporting year 2016 and asked them for comprehensive information on: market and non-market output, ancillary output and employment.

All analysis and calculations for filling PEFA tables (A, B, C, D, E) for 2014 and 2015 were in line with that described in PEFA Manual 2014, May 2014, Eurostat. The basic source of data for compilation of PEFA tables was the energy balance.

In addition to the energy balance, numerous other energy data from which the energy balance is produced are used. Some of the data collected by CBS (energy consumption in transport, energy consumption in construction, energy consumption in industry, energy import and export) while all other data were collected by surveying of all energy business entities in Croatia. In addition to energy data other data were used such as number of employees, number of registered vehicles, exit and entry of vehicles across the border.

The results of the projected IPA project (EuropeAid/133072/D/SER / HR) were also used. In the final methodological report for PEFA (points from 1 to 38) we described in details how analyses have been made for individual products and for particular NACE sectors. There was no deviation from the tasks and objectives foreseen.



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## Preparatory work to revise the harmonised European Time Use survey for the implementation in the round 2020

**Contract number: 07141.2016.001-2016.773**

EG16 TUS

Implementation period from 16/12/2016 to 15/12/2017

### **Project summary**

General objective

- To study, test and outline robust solutions for the 2020 Time Use Survey implementation

Specific objectives

- Survey interview techniques
- Revision of the activity list
- New dimensions in the diaries

### **Coordinator contact details**

Mario Vlajčević, Croatian Bureau of Statistics, vlajcevicm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

This project enabled several important developments

- It enabled personnel of the CBS, majority of who did not have prior experience in dealing with this survey, to gain important experience and basis of knowledge important for future work
- It allowed to collect and analyse the current state of the art regarding Time Use Survey methodology and certain important aspects of field implementation
- Notwithstanding the fact that the sample size was not applicable to identify nationally representative conclusion (not it was intended to provide this), it did indicate to a certain extent the attitudes of potential respondents, influence of interviewers, pros and cons for different data entry practices, comparisons between full and short diary, etc.
- As this is a rather specific survey, not just due to diary element, but also due to the potential sense of intrusion, intensity of 10-minute episodes, differences in how people see the structure of their day and priorities set in reporting them, and other elements which make it specific.

Having in mind solely abovementioned main benefits, but also the time period between this project and the Croatian HETUS pilot 2009/2010., it seems inevitable to conclude that future efforts aimed at the identification and realisation of improvement activities with regard to Time Use Survey is needed, in order to prepare and satisfy all preconditions for a future implementation of the Time Use Survey in Croatia.



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## Data collection system for agricultural land prices and rents following the common target methodology

**Contract number: 08411.2015.004-2015.559**

EG15 LAND PRICES AND RENTS

Implementation period from 01/11/2015 to 31/10/2017

### **Project summary**

The general objective of the action is updating the statistical system for agricultural land prices and rents in line with common methodology.

The specific objectives of action are to:

- identify the possible data sources;
- set up the most suitable data source which can fulfil the main targeted objectives:- good data quality, low response burden and low costs;
- establish the statistical system which will be used in the future for data collection

On the basis of project results CBS will decide about possibility of data dissemination on NUTS I and NUTS II level.

### **Coordinator contact details**

Mirjana Žanić, Croatian Bureau of Statistics, [zanicm@dzs.hr](mailto:zanicm@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Project “Data collection system for agricultural land prices and rents following the common target methodology” enabled updating of the statistical system for agricultural land prices and rents in line with common methodology. During the project common methodology for Land prices and rents was changed, and the data sets calculated during the project implementation time were harmonised with this change. Method for backwards calculations was established that enabled publishing of the full set of Land prices and rents 2013-2015 data series.

Data on the prices of purchased and rented farmland are obtained from the available administrative data sources of the Paying Agency for Agriculture, Fisheries and Rural Development, the Agricultural Land Agency and the Tax Administration of the Ministry of Finance. Data from the Farm Structure Survey (FSS) conducted by the Croatian Bureau of Statistics are also used for the calculations. Data for 2013-2016 are calculated based on FSS 2013.

For data from 2013 and 2014, the back-casting method was used according to the consumer price index of the Croatian Bureau of Statistics, with 2015 as the base year. The data obtained at the regional level were then recalculated according to the new methodology.

Data for 2015 were recalculated and revised according to the new methodology.

It should also be noted that the data for 2016 will be revised next year when the final results of the Farm Structure Survey, 2016 will be available.

The method of data collection has been improved and the burden of data delivery for administrative sources has been reduced. The new division of responsibilities of data transmission to the CBS is established. Tax Administration will continue with delivery of data necessary for calculation of land prices. Paying Agency for Agriculture, Fisheries and Rural Development is obliged to transmit data on lease of private land, while Agricultural Land Agency will transmit data on lease of state own land

In the frame of the project IT application for data collection and processing was developed, too. This application will enable data collection and data processing in a shorter period of time, which will reduce resources needed for implementation of this survey.



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## Pilot data collection on eggs for consumption and new data needs

**Contract number: 08411.2015.010-2015.366**

EG15 EGGS

Implementation period from 22/09/2015 to 21/09/2017

### **Project summary**

Statistics on animal production are a major tool for monitoring and managing the animal product markets. They are also essential instrument for evaluating agricultural policy and taking appropriate decision based on statistical information.

In line with that, general objective of the action is to introduce the improvements into the national Animal Production Statistics in line with the methodology developed under the Animal Production Statistics Working Party and according to the needs of the ESS regarding statistics on production of eggs for human consumption.

This should be accomplished through the action by the introduction of the pilot survey on the eggs for human consumption and after analysis of the possible data sources and methods.

Specific objective of the action is:

- to assess the new possible data sources and data collection methods
- to assess the cost effectiveness of the action
- to perform a pilot survey according to possible new methodology

According to specified activities it is planned to analyse current situation in statistics on farmyard poultry chicks, livestock statistics as well as taking into consideration some improvements of livestock statistics adding some new variables into current surveys.

### **Coordinator contact details**

Anita Grlica, Croatian Bureau of Statistics, [grlicaa@dzs.hr](mailto:grlicaa@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

In Croatia, data on the number of chicken hens and egg production are collected through an annual livestock survey.

CBS analysed potential administrative sources of data on egg production, to reduce the burden on reporting units.

CBS came to the knowledge that the database on hen's eggs recorded by the Ministry of Agriculture at this time does not meet our needs.

However, in agreement with our colleagues from the Ministry of Agriculture, CBS will get the permission to directly access this database so that CBS can track the dynamics of data entry on a monthly basis.

So CBS will be able to monitor and control the data more closely. Therefore, CBS leaves the possibility of using the database as an administrative source in the following years.

Pilot survey on packing centres that CBS carried out during the Grant showed that it is too much a burden for the reporting units. Namely, round 90% of packing centres in Croatia are producers of chicken eggs, they have their own farms. All of them are involved in the annual livestock survey and report their production in this research.

The limiting factor for introducing survey of packing centres is the control of double counting.

During the pilot survey, packing centres expressed their disapproval for the additional questionnaire they were supposed to fill in.

The conclusion is that CBS will continue collecting data on eggs for consumption by the annual livestock survey, by slightly changing the questionnaire.

CBS will reduce the questionnaire for private family farms and for legal entities. CBS will only ask for egg balance for hen's eggs, not for all eggs as it has been so far. Private family farms will be asked for the sale of eggs of consumption, regardless of whether it is a contracted sale or a sale on the market (until now there were two questions).

Also, CBS recommend as a reference day for the number of laying hens on December 1, instead of December 31, in order to reduce the burden for agricultural holdings as well as the processing costs.

Regarding the threshold on laying hens, CBS recommend that, in case of significant role of small producers in the total production of eggs for consumption (as it is the case in Croatia), Member States do not use threshold, or it should be optional.



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## Price statistics - methodological and practical improvements and developments

**Contract number: 04151.2015.004-2015.625**

EG15 PRICE STAT

Implementation period from 14/11/2015 to 13/08/2017

### **Project summary**

The specific objective is to develop software for handheld devices for CPI/HICP price collection as handheld devices make the traditional price collection process more efficient.

### **Coordinator contact details**

Jasminka Stančić, Croatian Bureau of Statistics, [stancicj@dzs.hr](mailto:stancicj@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The following activities were performed:

- review, examine and analyse the existing practice of MSs already using electronic devices for price collection (CPI/HICP purposes);
- study requirements for the most appropriate device from the view of CBS price collectors (size of the screen, the weight of the device, battery capacity, off/on line connection, etc.) and from the view of the IT developer (data storage, backup possibilities, security aspects, etc.);
- develop methods for integration of collected data into the existing production system;
- introduce methodological solutions for price collection;
- preparation of a detailed methodological description and technical specifications for the implementation of the proposed activity;
- procurement of IT company;
- develop software for management of the back-office processes; main functionalities should be as follows: management of interviewers, stores, products characteristics and price data;
- develop software/application for data entry;
- training for price collectors;
- participating in the workshop
- test and evaluate the application/solutions;
- analyse the results in connection with data sources and methodology used and to assess the quality of results;

Based on evaluation of the results the advantages as increase of efficiency for price collectors and central staff and higher quality of collected data are recognized.

In addition, according to evaluation of results, the future challenge issues (included price collectors testing feedbacks) are recognized as well. Currently they are in the process of resolving in cooperation with CBS IT-staff and before final implementation of developed application into regular process of CPI/HICP compilation will be completely resolved.



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## PPPs data collection 2015-16

**Contract number: 04152.2014.001-2014.180**

EG14 PPP

Implementation period from 01/10/2015 to 31/07/2017

### **Project summary**

The overall purpose of the Eurostat/OECD Purchasing Power Parities (PPP) program is to provide users with high quality PPPs and related economic indicators.

The Croatia has to achieve the specific objectives and undertakes the work in line with PPP methodological practices as describes in the PPP Manual, the PPP regulation (Regulation (EC) No 1445/2007 of the European Parliament and of the Council of 11 December 2007), other methodological papers and Eurostat PPP work plan deadlines, as established annually by the PPP Working Group.

The aim of the pre-survey work, countries' meetings, missions to the countries and possible neighbouring country visit is to enable the creation of a balanced European item list containing a sufficient number of available and representative items for each country. The meetings are expected to increase mutual understanding of the specific methodological requirements of the surveys and to improve the comparability of the survey results by exchanging knowledge and best practices concerning markets, products, price collection and pre-survey in the countries.

The aim of the price collection and consequent validation work is to get a data set with a sufficient number of price observations per available item for each survey. Spatial adjustment coefficients are used to convert the capital city average prices into the national average prices of each item for which prices have been observed.

The main objectives are:

- Objective A: Consumer goods price surveys (composed of 5 tasks)
- Objective B: Estate agencies rent survey (the aim is to provide validated capital city rentals data sets for 2016)
- Objective C: Capital goods price surveys (the aim is to provide validated construction and equipment goods price data including necessary metadata for the construction surveys carried out in 2015 and 2016 and the equipment goods price survey carried out in 2015.
- Objective D: Hospital price survey (the aim is to provide Eurostat with validated hospital price data including necessary metadata for the survey carried out in 2016.
- Objective E: Other PPP data (the aim is to provide Eurostat with data needed for the PPP calculation, i.e. on GDP expenditure weights, VAT, tips, actual and imputed rents, compensation of government employees and CPIs)
- Objective F: PPP Inventory (the aim is to submit to Eurostat an inventory of national methods and sources used in the PPP exercise in case of change occurred in the period following the submission of the most recent document version)
- Objective G: Additional tasks (includes a number of tasks that are useful in the context of the PPP programme and are on the voluntary basis)

After completion of the project, Eurostat will be able to establish reliable PPP for the participating countries, using the input data which countries provided under the project. This

will provide a sound basis for the allocation of the structural funds and the establishment of the correction coefficients, as well as a basis for general macro-economic analysis.

### **Coordinator contact details**

Suzana Čajkušić, Croatian Bureau of Statistics, [cajkusics@dzs.hr](mailto:cajkusics@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Croatian Bureau of Statistics (CBS) successfully carried out of the price surveys according to the EU requirements and timely supply of validated price data and other PPP input data according to the annual PPP work plan.

The actions covered by this PPP Grant 2015-2016 and carried out by the CBS are: E15-1 survey (*completed*), E15-2 survey (*completed*), Equipment goods survey 2015 (*completed*), Construction survey 2015 (*completed*), Hospital survey 2015 (*completed*), Construction survey 2016 (*completed*), Hospital survey 2016 (*completed*) E16-1 survey (*completed*) and E16-2 survey (*completed*), Estate agency rent survey 2015 and 2016 (*completed*), Other PPP data for 2015 and 2016 (*completed*), Up-date Inventory for 2015 and 2016 (*completed*), also in 2016 we realised a visit to the neighbouring country, BIH (*Bosnia and Herzegovina*), participated in multy country meetings on the construction survey in 2016, participated on four CGS countries meetings, realised of one contractors mission in 2015 and translated overview and first chapter of PPP manual.



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## Labour Force Survey ad hoc module 2016 on young people on the labour market

**Contract number: 07153.2015.001-2015.431**

EG15 LFS

Implementation period from 01/10/2015 to 31/05/2017

### **Project summary**

The purpose of the action is to implement the 2016 LFS ad hoc module on young people on the labour market.

The general objectives of the action are:

- valid implementation of AHM 2016 to deliver accurate and comparable data
- use of proposed model questionnaire so that high level of comparability could be reached

The aim of the 2016 ad hoc module is to provide the following:

- information on the educational background of young people, especially regarding their work experience during their studies,
- information on identifying aspects likely to influence their career prospects,
- information on reasons for abandoning studies or leaving education early,
- information on young people's own individual approach to finding work,
- information on the help they receive for finding work,
- information on evaluation young people's own perceptions as to whether their level of education matches the demands of their current job

### **Coordinator contact details**

Marina Munitić, Croatian Bureau of Statistics, [muniticm@dzs.hr](mailto:muniticm@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

National methodology was developed in line with Commission Implementing Regulation (EU) 2015/459 and other relevant documents provided by Eurostat. Model questionnaire proposed by Eurostat was translated to Croatian language and adjusted to national circumstances as well as methodological guidelines for interviewers.

Software programme for Ad hoc module data collection was developed. Ad hoc module has been carried out within Labour Force Survey using CAPI and CATI interviewing mode.

CBS managed to develop the Ad hoc module questionnaire and methodological guidelines without the assistance of an external consultant.

CBS developed the questionnaire and conducted a test. CBS got a more concrete picture of how much time the interview will last, and estimated that more external interviewers (CATI) would be needed.

That information was provided to Eurostat in February 2016.

Outputs produced and delivered to Eurostat were:

- Interim technical report
- Micro database containing the national statistical data of the survey transmitted in accordance with Commission Implementing Regulation (EU) 2015/459
- Technical report and Quality report



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## Quality improvements for the Labour Force Survey

**Contract number: 07131.2016.002-2016.292**

EG16 LFS QUALITY

Implementation period from 01/07/2016 to 30/04/2017

### **Project summary**

General objective of the action is:

- to provide input to the LAMAS working group for the elaboration of the implementing act in the labour market domain and also to improve the quality of the labour Force Survey and its ad-hoc modules, concretely ad-hoc module on “Labour market situation of migrants and their immediate descendants.”

Specific objectives of the action are/aims to achieve the following:

- to conduct field tests of the proposed model questionnaire for the regular module on migrants
- to conduct cognitive tests of the proposed variables and model questionnaire for the regular module on migrants
- to provide information on difficulties in routing/filtering
- to provide information on each variable of the module, wording of questions and answer categories in the module
- to provide conclusions of testing results and suggestions for improvements

### **Coordinator contact details**

Marina Munitić Croatian Bureau of Statistics, muniticm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

During the project implementation, the Croatian Bureau of Statistics has completed the following activities:

1. Studying the proposed variables, sub-modules and corresponding questionnaire
2. Preparation of the questionnaire for testing
3. Sampling
4. Software application for CAPI developed and tested
5. ESTP course on “Cognitive Interviewing”
6. Training of interviewers
7. Data collection
8. Cognitive testing

9. Test reporting – fulfilling test report on field testing of the questionnaire
10. Quality assessment of the data (consistency and plausibility checks)
11. Assessment of the proposed approach; conclusions of the testing results
12. Test report

Outputs produced and delivered to Eurostat were:

- Test report
- Methodological guidelines for interviewers in Croatian language
- Frequency tables



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## Implementation of interoperable business registers

**Contract number: 11172.2015.002-2015.511**

EG15 BR

Implementation period from 01/01/2016 to 31/03/2017

### **Project summary**

Specific objectives of the project are: initial profiling of global enterprise groups as country of GDC (intensive and light) and initial profiling partnering exercise on foreign groups for the reference year 2015, which will be selected and approved by Eurostat.

### **Coordinator contact details**

Zrinka Uglešić, Croatian Bureau of Statistics, [uglesicz@dzs.hr](mailto:uglesicz@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

The general objectives and specific goals of the project have been achieved by improving EG part of the Croatian SBR and by this an important step towards enabling interoperability between the SBR and all NBRs in the MS has been achieved too.



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## Merging statistics and geospatial information in Member States

**Contract number: 08143.2014.002-2014.393**

EG14 BR2

Implementation period from 02/01/2015 to 01/01/2017

### **Project summary**

General objective is integration of spatial information and georeference into the statistical production process through Statistical Business Register (SBR) database.

Specific objectives are:

- Upgrading of SBR with georeferential codes for legal and local units, and indirectly for enterprises as well,
- Connecting SBR with SSR through georeferencing code and the address for each legal and local unit
- Establishing internal processes required for a continuous automated update (at least once a year) of the georeference data.

### **Coordinator contact details**

Zrinka Pavlović Croatian Bureau of Statistics, pavlovicz@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Planned activities in this project were as follow:

1. Preparation of technical documentation and description of additional functionalities to be implemented into SBR system for the purposes of upgrading of SBR database and application;
2. Carrying out a procurement procedure for IT services on upgrading of SBR and linking of SBR and SSR;
3. Upgrading of SBR with additional functionalities related to introducing georeferential codes for legal and local units into SBR and enabling of recording historical information on geocodes as part of address data.
4. Supplementing of existing SBR user interface for manual registration of local units with functionality for coding streets through direct access to SSR and for coding addresses;
5. Creating a thesaurus of streets in the Republic of Croatia for the purpose of coding of addresses in SBR; creating a functionality for updating of thesaurus of streets with new variations of street names;

6. Linking of SBR and SSR using settlement code and street code.
7. Coding of existing units in SBR with geocodes and street codes using created thesaurus;
8. Upgrading of procedures for transmitting data from the Administrative Business Register and other registers into the Statistical Business Register for the purpose of automatic coding of units with geocodes;
9. Supervision of IT development and testing of all implemented changes in SBR database and application.
10. Designing of functionality for publishing of geographical presentation of selected SBR data on the CBS website.
11. Developing functionality for publishing of geographical presentation of selected SBR data on the CBS website, and testing
12. Attending a Kick-Off meeting and Final Presentation at the GISCO Working party;
13. Drafting Implementation report and financial statement.
14. Final report on implementation of the action (Annex IV of GA) and financial statement

Most of listed activities have been implemented according to the plan, but by the start of the project and during the preparation of technical specification for IT development, some of activities were redefined because some new ideas occurred regarding the implementation of IT solution in the BR system that could bring more efficiency and less manual work in assigning geocode to all different types of units in the SBR.

Activity that was originally planned under point 4 was included in the point 3. IT solution that was implemented enabled that no manual work on selecting street code is necessary because it is done automatically after registration of the address of new local (or legal) unit. The same thing happened with activity 8 – coding of the address is done automatically after new address is entered into the SBR system so original updating procedures from administrative sources remained the same.

The project could be divided into three parts:

1. IT part - development of the application for coding streets, upgrading of SBR with new attributes and links with SSR application, retrieving geocodes from SSR database and assigning them to addresses
2. Manual matching of street names from SBR with official street names from SSR and populating thesaurus
3. Selection and preparation of SBR data for publishing on CBS Geoportal.

IT development of new functionalities in the SBR system was key part of the project. Since maintenance of SBR is not available in-house, IT part of the project needed to be outsourced.

Procurement of IT services was carried out according to regular rules for tendering procedures and the IT Company was selected.

IT part of the project included following:

1. Development of application for coding streets with thesaurus of street names
2. Adding new attributes within address data in the SBR data base and on the multiple screens of the SBR user interface

### 3. Linking this new application with live SBR data base and “new” SSR data base and creating procedures for automatic coding of streets and assigning geocodes to addresses

Within development of the system for coding addresses, IT company performed following:

- Analysed existing situation with addresses in SBR and SSR
- Defined new relational data base in which all addresses from SBR and SSR were imported
- Defined new field in both data bases which would contain normalized street name
- Normalized (standardization) street names from both data bases in order to reach the maximum in matching those two data bases.
- Created thesaurus that contain settlement code, original name of the street from SBR, normalized name of the street, street code and official name of the street
- Developed tool for coding

As the main tool for coding streets Web application was developed that enabled both automatic or manual matching of street names.

Application for matching and coding streets is linked to SBR application and enables manual and automatic retrieving coded and not-coded streets from the SBR application.

Not-coded streets are matched automatically if the form of the street name exists in the thesaurus. If it does not exist, manual matching is needed.

Application for coding street is linked with SBR data base in a way that every day new addresses registered in SBR are uploaded to system for coding streets and if matched automatically, street code is stored in SBR, and if not it is listed for manual coding.

If the new address was assigned street code, procedure checks complete information: settlement code, street code, house number and appendix to house number.

If complete address match with the SSR data of the same level, geolocation code from SSR data base is retrieved to the SBR and new attributes within address data in the SBR data base is filled on the multiple screens of the SBR user interface.

Automatic coding of streets resulted in very low percentage of coded streets (only 40 %) and lot of manual work was needed for matching street names.

Part of project team was engaged several months in this task. Beside them, additional staff from regional offices helped with identifying problematic addresses that couldn't be matched.

One of planned results of the project was presentation of selected SBR data in geographical form.

SBR publish only data on business demography, so it is decided that regional business demography data is suitable for geographical presentation.

GeoSTAT portal was developed in 2015 as a tool for geographical presentation of statistics within Ad-hoc DCP 21 - Dissemination and development of application of CBS Spatial Statistical Register. It is chosen as most appropriate tool for presentation of selected BR data.

The GeoSTAT<sup>RH</sup> application created for publishing interactive maps for viewing on the CBS website. This application enables users to combine a selected spatial level with a selected statistics.

The GeoSTAT<sup>RH</sup> browser web application is published on the CBS website.

Regional business demography data is produced according to EU methodology and disaggregation is done on sections of activity (NKD 2007) and NUTS3 level – county.

Selected data for publishing were data on active enterprises and enterprise births for year 2013 and 2014 and enterprises deaths for year 2013 on the NUTS 3 level.

Preparation of data and infrastructure for publishing on GeoStat required involvement of both SSR staff and SBR staff. Within SBR part of the work, except of breakdowns according to activity section and NUTS 3 level, five classes needed to be defined for each section of NKD 2007.

Meaningful classes are defined according to graphical analysis of dispersion of units, the arithmetic mean of the highest number of enterprises for the each section and business characteristics of the sections.

The aim was to define classes that would be sustainable for many years ensuring comparability of data, regardless of potentially significant fluctuations in the number of companies within the sectors in the coming years. For every selected year(2013 and 2014), for every event (activity, birth, death) 17 tables needed to be prepared (one for every activity section) with the information of belonging to a specific class – in total 85 tables.

SSR part of the work was matching of business demography data to spatial data using Join Data function in ArcMap10.4. Created spatial data combined with business demography data was exported with Export Data function. In final step, created data set was compressed with 7-Zip and as such made ready for uploading to GeoSTAT portal.

Created forms will be used in future for adding new data sets of business demography.

Complex spatial situation in Croatia is reflected in the registers, which in many situations diverge from the real world.

In this project, the main task was to reconcile those worlds. It was not easy and it required many efforts – establishing complex system of coding streets and geo-coding addresses and a lot of clerical work in manual matching.

Results are very satisfying because percentage of coded streets is very high (92-98%) as well as geo-coded addresses.

Except of planned and expected results, project gave additional value – quality of address data was improved a lot because many mistakes were corrected. System is established that will contribute to keeping the quality of address data on high level by signalling about problematic data at the moment they enter into SBR so they can be corrected at the beginning of their existence in SBR.



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## Data collection on ICT usage and e-commerce in enterprises 2016 and Data collection on ICT usage in households and by individuals 2016

**Contract number: 06163.2015.001-2015.578**

EG15 ICT

Implementation period from 01/11/2015 to 31/12/2016

### **Project summary**

The objective of the Action 1 is to collect accurate, reliable and representative data based on the 2016 Eurostat model questionnaire on ICT usage and e-Commerce in enterprises and on Annex I of the 2015 draft Commission Regulation implementing Regulation 808/2004. Moreover, the objective is to transmit the aggregate reliable data to Eurostat in the format provided by Eurostat, respecting the quality criteria and covering optional variables/breakdowns.

The objective of the Action 2 is to collect accurate, reliable and representative data based on the 2016 Eurostat model questionnaire on ICT usage in households and by individuals and on Annex II of the 2015 draft Commission Regulation implementing Regulation 808/2004. Moreover, the objective is to transmit the micro-data to Eurostat in the format provided by Eurostat, respecting the quality criteria and covering optional variables/breakdowns.

### **Coordinator contact details**

Hrvoje Markuš, Croatian Bureau of Statistics, [markush@dzs.hr](mailto:markush@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Accurate, reliable and representative data based on the 2016 Eurostat model questionnaire on ICT usage and e-Commerce in enterprises were transmitted to Eurostat.

Accurate, reliable and representative data based on the 2016 Eurostat model questionnaire on ICT usage in households and by individuals were transmitted to Eurostat.



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## Intermodal transport statistics implementation

**Contract number: 08363.2015.002-2015.452**

EG15 TRANSPORT

Implementation period from 23/10/2015 to 22/10/2016

### **Project summary**

The White Paper adopted in March 2011, outlines that the transport sector in the EU should use less energy, cleaner energy and should occur on efficient networks. A modal shift to environmentally more sustainable modes of transport should further be encouraged and the efficient combination of different modes is identified as a key factor. The paper mentions a framework for establishing a European Intermodal Network and data to monitor the development towards this goal is needed. Introduction of Intermodal Transport Statistics in the Republic of Croatia is closely linked to EU and national policies for improving the efficiency of transport in the logistics chain. Statistics on intermodal terminal and transfer stations would be of particular interest for identifying the intermodal transport chains.

The objective of this project is to create a methodological framework for the production of Intermodal transport statistics in the Republic of Croatia by using on one hand the existing data collections within the EU legal base and on the other hand to investigate if additional data are available.

### **Coordinator contact details**

Lidija Pilat, Croatian Bureau of Statistics, [pilat@dzs.hr](mailto:pilat@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Data show that intermodal transport in Croatia is mainly transport of containers where most of the goods entered or exited the country through the seaports and used at least one more mode of transport (rail and/or road). Most of the intermodal transport from/to these hub ports is performed by road even on larger distances. As two year results are too short time span for potential analysis of modal shift the observation of shift requires a few more years to detect trends.

Maritime data contains all the information needed to produce intermodal statistics and its coverage and quality from the administrative source are satisfactory. As three seaport locations have the infrastructure for lo-lo traffic of containers and established hinterland connections they are the most convenient locations in creating intermodal transport chains.

The more detailed railway datasets with additional information on region of loading/unloading, type and size of transport unit and number of units contain sufficient information to establish

links with other transport modes. The detailed level on the information of place of loading/unloading gives the opportunity for time series analysis and potential to determine significant intermodal locations.

Road transport of goods requires significant work on upgrading the scope of information required. For future quality improvement of data, it is necessary to distinguish the containers from swap bodies, to specify size and number of containers as well as their loading status (full/empty). All the additional data would be additional burden to the reporting units. The expansion of the structure of the survey requires design and implementation of new data processing application and requires significant financial and human resources. The size of the sample is something that is not influenced easily, and the nature of the sample survey and limited amount of voyages related to containerised transport will remain the source of higher coefficient of variation for intermodal part of data.

Pilot survey from intermodal terminals was valuable input and additional help in creating estimates of the missing data. It is determined that it is not possible to establish this as a regular survey as its results cannot be published due to the confidentiality issues and due to detailed level of data requirements it is quite burdening on the reporting units.

Experience and challenges that appeared during this project will help in improving the methodology and calculation methods and present a fair foundation for a future regular collection of data on the transport of containers on the territory of the Republic of Croatia.



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## Improvement of the use of administrative sources (ESS. VIP ADMIN WP6 Pilot studies and applications)

**Contract number: 07112.2015.002-2015.348**

EG15 ADMIN

Implementation period from 01/10/2015 to 30/09/2016

### **Project summary**

General objectives are to make greater/better use of administrative sources for 2021 Census and to explore issues that will be of interest for potential development and generalisation.

Specific objectives:

1. To establish a formal CBS procedure for extending/improving the use of administrative sources. This covers all business processes of data collection and production in official statistics that could use administrative data into high quality and efficient information for producing official statistics.
2. To develop a concept of a unique statistical identifier of data from administrative sources and test it on selected examples.
3. Considering possible administrative sources regarding their coverage and quality for eventual inclusion into 2021 Census

### **Coordinator contact details**

Damir Plesac, Croatian Bureau of Statistics, [plesacd@dzs.hr](mailto:plesacd@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

By conducting the ADMIN project CBS has received numerous benefits and knowledge that will be of a great importance in future work on the administrative sources.

Awareness about the importance and necessity of using administrative data in order to obtain statistical data has been raised on all levels of the Croatian Bureau of Statistics (experts who were involved in the project, low, middle and top management all the way to the director general).

An analysis of the current situation of administrative sources within the Croatian Bureau of Statistics has been made, number of meetings were held, the ideas and opinions on the subject matter given, and in general, a positive atmosphere for the use of administrative sources for the next Census has been created.

Contacts have been made with the responsible persons and experts from the Register of Persons with Disability of the Croatian National Institute of Public Health as well as for the

Record of Insured Persons from the Croatian Institute for Pension Insurance. These responsible persons and experts did not only give a tremendous contribution in the implementation of points 1.2, 1.3, 3.1 and 3.2., but they also recognized all benefits of collaboration with Croatian Bureau of Statistics, and are looking forward for further cooperation in other projects that will follow.

Croatian Bureau of Statistics has initiated and developed a cooperation agreement in the field of mutual exchange of information with the Croatian National Institute of Public Health and with the Croatian Institute for Pension Insurance, in which the general provisions about the cooperation, the method and the time of data delivery, usage of data, dissemination and data quality are described.

Although most of the codes from administrative sources, that are important in the processing of the data, are in line with those used by Croatian Bureau of Statistics, some still need to be harmonized, as noted in the meetings between the representatives of the institutions.

Issues about the data confidentiality are successfully resolved by strict agreement about the methods of their collection, storage and usage. The data were obtained in Excel on a CD with a password known only to a leader of an ADMIN project.

Methodological analysis of data on disabled persons and their comparison between a Register of Persons with Disabilities and both 2001 and 2011 Censuses, led to the conclusion that the questions on disability can be obtained from administrative sources, and they do not need to be inserted in the Census 2021 Questionnaire. That means the burden of the response will be decreased by removing set of questions.

Record of insured persons of the Croatian Institute for Pension Insurance has been methodology analysed in detail. This record was very interesting in order to obtain data on employed persons, their occupation and industry for the following Census. The comparison of data of employees between the administrative source and the 2011 Census showed a percentage of almost 94% records with matching PIN, which is a very high percentage considering that Census 2011 is missing 7.4 % of PINs, and also there is a three years distance in which significant changes may have occurred. This high percentage of matched employed persons gives us the right to consider use of the register for the following Census.



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## Improvement of tools and methods for data collection, processing, validation, quality reporting and dissemination of industrial production statistics (PRODCOM)

**Contract number: 06124.2015.001-2015.305**

EG15 PRODCOM

Implementation period from 09/09/2015 to 08/09/2016

### **Project summary**

General objective of this action is:

- to improve IT tools for PRODCOM data collection, processing, validation and to devise alternative data source and sampling methodology to reduce burden on SMEs by their exemption from reporting

Specific objectives of this action are as follows:

Area 1: to implement appropriate IT tools in existing electronic data collection (as validation rules, automatic tools for the identification of products)

Area 2: to devise and use alternative data sources and sampling methodologies that will foster the reduction of sample size and the exemption of SMEs from reporting.

In Croatia the PRODCOM survey is standalone survey. Method of data collection is CAWI based on-line application where electronic questionnaire is designed and introduced in 2012 but with no validation rules integrated. Additionally, survey tools like reference tables, key list or other automatic tools for identification of product are not available within on-line application. Furthermore, Croatian PRODCOM survey is cut-off survey where all enterprises and part thereof with 20 and more persons employed which falls within PRODCOM activity coverage are surveyed each year. Statistical estimation methods for reduction of response burden on SMEs are not developed. Finally, administrative sources for production of PRODCOM statistics are not investigated so far although CBS has access right to all administrative data according to the Croatian Official Statistics Act.

### **Coordinator contact details**

Goran Dolšak, Croatian Bureau of Statistics, [dolsakg@dzs.hr](mailto:dolsakg@dzs.hr)

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

There are lot of benefits gained by implementation of results in both project areas (1 and 2) CBS since integration of validation rules within existing PRODCOM on-line application will gradually improve input data, improvement of AST for the sake of respondents will influence on response rate on CAWI system, save the time need for fulfilment and overall satisfaction of respondents will be achieved. From other side, results from project area 2 will influence directly on reduction of response burden for small size enterprise (less than 50) with exemption them from reporting in next round of surveying.

The sustainability over time was secured after the completion of the project via different dimensions of sustainability: established IT tools for validation and identification of products within existing on-line data collection and developed IT tools for automatic comparison of PRODCOM data with identified alternative sources accompanied with guidelines drafted and on-job trainings of CBS staff involved in regular PRODCOM based data collection, validation, analysis and dissemination would certainly ensure the sustainability of results achieved in this project due time.



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## IT security improvement in the ESS for the exchange of confidential statistical information

**Contract number: 11131.2016.017-2016.795**

EG16 IT SECURITY

Implementation period from 22/02/2017 to 21/02/2018

### **Project summary**

General objective

To enable the secure data exchange and to improve compliancy with the ESS IT security framework.

Specific objectives:

To improve CBS infrastructure in order to comply with minimum requirements for the IT security framework and with the controls identified in the ESS IT security framework.

### **Coordinator contact details**

Silvio Zlopaša, Croatian Bureau of Statistics, zlopasas@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

### **Project results**

Procurement of IT equipment and installation of:

- System for video conferencing
- SIEM/Event log Analyser software
- Laptops for monitoring the safety, surveillance, data, server and communication system for administrators,
- Firewall Next Generation Threat Prevention & SandBlast Appliance for High Availability,
- Central communication switches
- Storage system

The IT security audit was successfully performed during January and beginning of February 2018 by external auditor.



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## OTHER PROJECTS

The list includes other statistical projects funded (co-funded) by the European Union in the past five years.

### Technical Assistance to the Croatian Bureau of Statistics in the Official Statistics Domain - Statistical Disclosure Control System and Customer Relation Management

Programme: Transition Facility - Institution Building Envelope - Official Statistics Domains

Contract number: TF/HR/P2-M2-O6-1501

Contract between: Central Finance and Contracting Agency, Zagreb and IN2 d.o.o. Zagreb

Implementation period: from 15/02/2017 to 14/02/2019.

#### Project summary

Specific objectives

- Improvement of the Statistical Disclosure Control System
- Shortening of the response time to customer inquiries

The project consisted of two components:

- Establishment of Statistical Disclosure Control System and access to micro data in the CBS
- Establishment of a procedure for implementing a Customer Relationship Management system

#### Coordinator contact details

For Establishment of Statistical Disclosure Control System and access to micro data in the CBS – Ana Beljan Šćuric, Croatian Bureau of Statistics, beljana@dzs.hr

Establishment of a procedure for implementing a Customer Relationship Management system – Blaženka Vukelić, Croatian Bureau of Statistics, vukelich@dzs.hr

#### List of participants

Croatian Bureau of Statistics

Central Finance and Contracting Agency, Zagreb

IN2 d.o.o. Zagreb

#### Project results

- Component 1 - Establishment of Statistical Disclosure Control System and access to micro data in the CBS

Statistical Disclosure Control System established, prepared recommendations for protection of tabular data and micro data, as well as appropriate available software for protection of confidential statistical data, developed guidelines for protection of tabular data and micro data, defined rules for protection of linked tables, prepared guidelines and rules to control the results of scientific research, developed databases for scientific and public use for which there is the greatest interest of the scientific community, increased level of knowledge and skills of at least 15 CBS employees in the field of protection of confidential statistical data

- Component 2 - Establishment of a procedure for implementing a Customer Relationship Management system

Established procedures for the implementation of Customer Relationship Management system.

Guidelines for improving customer relations prepared, project task prepared for automation of Customer Relationship Management process, employees trained in Customer Relationship Management system.



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## Technical Assistance Business statistics - SPPI - Service Production Price Index, Survey on Energy Final Consumption in Agriculture

Programme: Transition Facility

Contract number: TF/HR/P2-M2-O3-0101

Contract between: Central Finance and Contracting Agency, Zagreb and Consortium Teched savjetodavne usluge d.o.o., Energetski institut Hrvoje Požar, GOPA - Gesellschaft für Organisation, Planung und Ausbildung mbH, IPSOS d.o.o.

Implementation period from 10/01/2017 to 09/07/2018

### **Project summary**

The operation is aimed at extending availability of STS (Short-term Statistics) by establishing missing or amended SPPI (Service Production Price Index) sub-indices, and by extending availability of energy statistics.

The project was consisted of two components:

- STS (Short-Term Statistics)
- Energy statistics

### **Coordinator contact details**

For Component 1 - STS (Short-Term Statistics) – Ivana Zoroja Milić, Croatian Bureau of Statistics, zorojai@dzs.hr

For Component 2 - Statistical survey on energy final consumption in Agriculture – Mirjana Petanjek, Croatian Bureau of Statistics, petanjekm@dzs.hr

### **List of participants**

Croatian Bureau of Statistics

Central Finance and Contracting Agency, Zagreb

Consortium Teched savjetodavne usluge d.o.o., Energetski institut Hrvoje Požar, GOPA - Gesellschaft für Organisation, Planung und Ausbildung mbH, IPSOS d.o.o.

### **Project results**

- Component 1 - STS (Short-Term Statistics)
  - Statistical survey on missing SPPI (Service Production Price Index) sub-index on Management consultancy activities developed;
  - Statistical surveys for SPPI sub-indices for Sea and coastal water passenger transport and Sea coastal water freight transport revised and upgraded;

- STS (Short-Term Statistics) dedicated database created, presented and made available on the CBS web site.
- Component 2 – Energy statistics
  - Methodology and procedures for the improvement of the collection and compilation of data on final energy consumption in Agriculture sector was developed;
  - Statistical survey on final energy consumption in Agriculture sector was conducted.



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