

**REPORT ON IMPLEMENTATION OF THE ACTION CARRIED OUT WITHIN THE
GRANT AGREEMENT**

AGREEMENT NO:	847187 – 2018 – PL – INNOV
DATE OF SIGNING OF THE AGREEMENT:	7TH OF FEBRUARY, 2019
PARTIES OF THE AGREEMENT:	<ul style="list-style-type: none"> • CENTRAL STATISTICAL OFFICE OF POLAND • EUROPEAN COMMISSION - EUROSTAT
TITLE OF THE ACTION:	INNOVATIVE TOOLS AND SOURCES FOR DIARY-BASED SURVEYS, THE HOUSEHOLD BUDGET SURVEY AND/OR THE TIME USE SURVEY
ELIGIBLE PERIOD:	1ST OF MARCH, 2019 – 30TH OF APRIL, 2020
REPORTING PERIOD:	M14

Project leader:
(name and surname)

WIESŁAW STRZELECKI

Wiesław Strzelecki
.....
(signature)

Leading unit: STATISTICAL COMPUTING CENTRE

Director of leading unit:
(name and surname)

MARCIN PIEKAREK

DYREKTOR
Centrum Informatyki Statystycznej
.....
(signature and stamp)
Marcin Piekarek

WARSAW 28.04.2020
.....
(place and date)

„The action described in this report has been implemented with the financial assistance of the European Union. The sole responsibility lies with the author and the European Commission is not responsible for any use that may be made of the information contained therein..”

1. REPORT ON IMPLEMENTATION OF THE ACTION CARRIED OUT WITHIN THE GRANT AGREEMENT

Member State: Statistics Poland

Grant Agreement number: Due Date of Report: 30th of April, 2020

Date of Report: 30th of April, 2020

1. A brief description of all activities conducted, with an overview of the results and the deliverables provided

The aim of the action is to modernize data collection through innovative tools and sources for diary-based surveys, the Household Budget Survey and/or the Time Use Survey.

The project implemented by the Statistics Poland concerns innovative tools in the field of Household Budget Survey (HBS).

The specific objective is to develop a concept and to prepare a prototype of the environment for defining the parameters of the application functioning in the scope of handling the diary for HBS in a formula that allows the preparation of a dedicated CAWI module for registration of the data according to the specific national requirements.

The IT product of the project is the prototype of an internet platform supporting the development of a diary for HBS as a CAWI module and enabling data registration.

The implementation of the goal included the performance of the following main tasks:

- analysis of documentation from the work of the Eurostat Task Force Innovative Tools and Sources for Household Budget Survey,
- gathering information on the methodology of the HBS in EU countries, with particular consideration on the substantive content of household budget diary,
- development of the substantive and functional concept of the environment prototype for defining the parameters of the application functioning in the scope of handling the diary for HBS in a formula that allows the preparation of a dedicated CAWI module for registration of the data according to the specific national requirements,
- development of a technical specifications of the environment,
- development of an environment prototype including designing, programming and testing of the prepared solution and user documentation.

The developed products are:

1. the induction report sent after 2 months from the start of the action including among others defined tasks, initial plan and scope of activity,
2. the note summarizing the needs of countries regarding the budget diary, allowing to define the functionality of the prototype,
3. the report on implementation of the action including a detailed description of the activity, results achieved and a description of all tasks performed,
4. the prototype of the environment in the installation version with the description of the tool and the documentation.

In the first stage, detailed work included :

- gathering and analysis of materials on Household Budget Survey and innovative research tools used for the household budget diary - HBS methodology as defined by Eurostat ('Household Budget Survey in the EU methodology and recommendations for harmonization – 2003'),
- gathering and analysis of documentation of the Task Force on innovative research tools for the Household Budget Survey,
- determination of information that should be obtained regarding the HBS methodology (including the household budget diary) in other countries (e.g. used classification, scope of data collected in budget diary, validation),
- developing assumptions for the online survey on HBS in other countries, including formulating substantive and IT questions,
- preparation of the survey application design in a development environment, electronic survey version software, testing, implementation and sharing of the survey with selected EU countries with a request to complete it,
- analysis and development of information obtained in the survey,
- review and analysis of budget diaries received from other countries.

The result of the activities was the introduction report sent to Eurostat on April 30, 2019, containing conclusions and an outline of the planned functionality of the prototype.

In the second stage, analytical works were carried out in the field of:

- defining and specifying functionalities of the prototype - based on collected information and documentation of the Eurostat Task Force,
- identification of common elements in the area of data registration at the level of household budget diaries from European Statistical System countries,
- determining the types of fields used to register individual information from the diaries,
- recognition of classifications and dictionaries and their structures.

In the area of IT work, an environment prototype workspace was created on the Team Foundation Server group work platform. A project was set up in Visual Studio based on the Single Page Application template as recommended for this type of solutions, i.e. complex applications with a predicted large number of user interactions. The original database structures for data recording were planned and made. The functionality of programming libraries and frameworks for use in the prototype at the user interface (GUI) layer was recognized and analyzed. As a result of the assessment of their capabilities and taking into account competences, the VUE framework was chosen. A prototype template with basic functionalities was developed in the configured development environment, which was the basis for further work.

The result of the activities in the second stage was the development of functional guidelines for the prototype (including field types, data validation, basic modules / application options: editions, surveys/projects, dictionaries, users). A prototype design for programming work was created. It contained the necessary components: a database and its mapping in the form of an entity model, an access layer using the ORM mechanism using EntityFramework, basic controllers, page templates, containers for other program elements, e.g. API requests,

etc. The assumptions made were presented during the meetings of Task Force Innovative Tools and Sources for HBS and Working Group on Income and Living Conditions/HBS in June 2019.

In the third stage, tasks related to:

- analysis and revision of adopted guidelines,
- the first implementation of elements of the graphical interface of the environmental prototype,
- designing screens for the presentation of the main system options and basic functionality in the field of data display, editing, i.e. adding, editing and deleting were performed

A tabular way of presenting information in the main options has been implemented along with the concept of searching, sorting and navigating pages.

An application template was used for implementation using a responsive model - also effective on mobile devices - determining respondents.

In terms of the main functionality of the environment, i.e. the creation of the CAWI module by statistics, the functional outline of the diary creator screen was developed.

The result of the stage was the prototype design and environment model in the first version with support in the scope of basic options. The demo version was presented at the meeting of Task Force Innovative Tools and Sources for HBS in November 2019.

In the fourth stage, the work focused on the implementation of detailed solutions in the field of main functionality, i.e. the creation of a CAWI survey by statistics.

Additionally:

- programming of data handling options from basic objects, ie editing, dictionaries, studies and users, was continued,
- the prototype was cyclically made available to the substantive team, which tested individual, ready for checking components on a regular basis. As part of testing, examples of diaries from selected countries were developed, which was the basis for test scenarios.

As a result of actions

- a working environment was developed for the statistician, enabling a graphical interface to make a household budget diary for data registration and to generate it in an executable form (CAWI module) intended for publication in a web browser environment,
- a software installation package was prepared with the source version as a work platform for programmers and publications for respondents. Documentation of the developed prototype was prepared.

The result of the stage is a report on the action sent to Eurostat within the time limit specified in the project timetable

2. Information needed to justify the eligible costs declared

The project was implemented by a team of 11 employees of Statistics Poland, including 6 employees of the Statistical Computing Center and 5 employees of the Social Surveys Department.

The composition of the project team has changed in relation to the planned one, because one person resigned from the work in Statistical Computing Center, and one due to involvement in other projects and tasks could not participate in the work of the team. A collective summary of the number of persons and days covered by the project is presented in Table 1

Table 1.

	PLAN				EXECUTION		
	Unit cost grade	Number of persons	Number of days	Number of hours	Number of persons	Number of days	Number of hours
Deputy Head of unit	3	1	50	400	1	50	400
Head of unit	3	1	10	80	0	0	0
Operator	6	1	60	480	1	12	96
Chief specialist	3	9	55	3960	9	55	3960
Head of unit	2	1	30	240	1	30	240
				5160			4696

The work planned as part of the action was carried out by the end of the grant agreement.

Appendices:

1. **PL-847187-2018-PL-INNOV USER MANUAL.pdf** Pdf file with the user manual
2. **PL-847187-2018-PL-INNOV TECHNICAL SPECIFICATION.pdf** Pdf file with the project technical specification
3. **DB_CREATE.zip** Zip file with the script for creating data database
4. **hbs_eval.zip** Zip file with the evaluation version
5. **hbs_prod.zip** Zip file with the production version
6. **HBS_SOLUTION.zip** Zip file with the project of the prototype with source codes