Modernisation of time-use data collection in EU Member States. A concrete use case: the Belgian way

**Keywords:** time-use, tool, platform, shareable, active registration, passive registration

# Introduction

In a reaction to the Wiesbaden Memorandum EUROSTAT called for proposals placing central innovative tools and sources for diary based surveys. The focus lies on the Time-Use Survey and the Household Budget Survey.

In TUS, respondents chronologically self-report their activities and specify for each new activity the beginning and ending time as well as important contextual information like the place of occurrence and the possible presence of others. The micro-behavioral structure of time diary data provides an overview of contextualised experiences picturing how people live their lives and how social boundaries (set out by family, work, school, associations, …) structure our daily time allocation.

Member countries rely since 2004 on a pre-harmonisation strategy outlined in the HETUS-guidelines, which, in place, have resulted in highly comparable and highly valuable international data employed within a wide range of study domains (paid work, unpaid work, gender equality, leisure, …). To date, 3 rounds of data collections have been organised, including 28 countries.

A downside is that these data collections are paper-and-pencil based, with a negative impact on budget costs, response rates and respondent burden.

# A concrete case – the Belgian approach

To overcome these downsides the Research Group TOR of the Vrije Universiteit Brussel (Belgium) began in 2012 the development of a software platform named Modular Online Time Use Survey - MOTUS. Besides maintaining comparability, reliability and quality as preconditions, the real strength lies within the modularity of the tool.

Through its extensive and modular back-office, the MOTUS software platform facilitates a stepwise research design including survey questionnaires, time diaries, activity-based questionnaires, and communication strategies to combine all research elements into an automated research flow. Once designed, data collection process runs automatically, including communication with participants and progress monitoring.

Due to its software architecture new features and coming innovative methodologies can be added, including behavioural data coming from wearables or metering devices to enrich the context of daily human behaviour even further (i.e. to study the subjective experiences like stress and the objective experiences like calorie burning).

Respondent keep time logs via a dedicated MOTUS module which can be installed on any type of smartphone or tablet (mobile app) and/or accessed through conventional web-browsers (web app).

Respondent data retrieved via sensors or wearables are stored in a dataset via an API-key. Through notifications the respondent can actively interact (confirm, give more context, …) with passively captured information. All data is synchronised and available on different devices.

MOTUS has been used to handle small, medium and large scale projects, running over a small period of time (a day, a week, a few months) up to nearly 4 years. These projects depart from that same principle: understanding human behaviour means capturing and analysing people’s activities in their context.

# SOURCE TM project

This selected project brings together STATBEL (Statistics Belgium) and DESTATIS (Statistics Germany) in their interest to get to know more about the MOTUS. This EU-grant project will evaluate how and in which way MOTUS as a tool or software platform can be adopted by STATBEL and/or DESTATIS, and furthermore can be ESS-shareable. This will be done through the execution of 4 working packages.

WP1: Software outreach - Sharing knowledge about MOTUS via CSPA compliant documentation and options to implement in other software architectures. This will support shareability of MOTUS in the ESS.

WP2: Redefinition - Mapping of the content and the technical requirements, to support shareability and reusability.

WP3: Collect - Setting up a collecting strategy with a focus on governmental practices, panel invitation and the household level. These experiences will support MOTUS to become ESS-shareable.

WP4: E-data - Towards a harmonized approach to support ESS shareability of MOTUS: pilot test and dissemination.

Overall, the theoretical and/or practical encapsulation of MOTUS into the software architecture of STATBEL and/or DESTATIS will provide further knowledge to other National Offices, and become a governance tool that is CSPA-compliant.

The poster presentation and future work within the project is a collaboration between: Joeri Minnen (Vrije Universiteit Brussel - hbits), Kelly Sabbe (STATBEL) and Hubertus Cloodt (EUROSTAT).