



Innovative data collection solutions for the Household Budget Survey and Time Use Survey

State of Play

3rd meeting of the UN Expert Group
on Innovative and Effective Ways to Collect Time-Use Statistics

4-6 November 2019 – UN, New York USA

European Commission
Eurostat – ESTAT.F.4 – Income and living conditions; Quality of life
Innovative tools and sources for living conditions survey
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Project Innovative Tools & Sources for HBS and TUS - **Objective**

Developing new and improving existing applications to collect and process survey data:

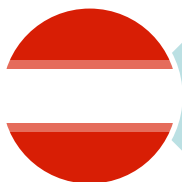
Use of mobile apps (Identification, eDiaries), smart cards, introduction of back ends which allow to configure and manage surveys, web diaries, in order to...

- ✓ **lower the burden** for respondents and NSIs
- ✓ link the data collection with new **data sources**
- ✓ ensure **more efficient** data collection for Member States, taking into account **new technologies available**

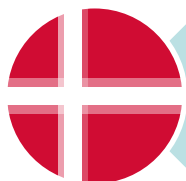
Project Innovative Tools & Sources for HBS and TUS – **State of play**

- 1. 5 development projects (Eurostat grants) executed in MS (results for all projects expected by 04-2020)*
 - 2. HBS data collection - iCard project (Q1 – 2021)*
 - 3. TUS data collection - use geolocated data (Q1 -2021)*
-
- 4. Inventory of tools and sources – redesign (Q2 -2020)*
-
- 5. Future.... European platform for Trusted Smart Statistics*

1. MS activities – development grants



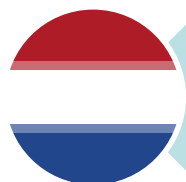
TUS: Update of existing **App for Time Use data collection:** new functions, documentation, language



HBS: Development **online tool for the reporting of household data in the household budget survey**, incl. validation and usage of Classification of Individual Consumption According to Purpose (COICOP) codes



HBS: development of a prototype for defining the parameters of the application functioning in the scope of **handling the diary for household budget surveys (based on existing web application)**, language



HBS: develops **an app-assisted approach towards HBS data collection in which a diary, scanning of receipts**, inclusion of geographical context information and big data linkage consent questions and measurements are combined

AT, SI,
FI, UK



TUS: a software platform designed **to collect highly contextualized time-use data through the use of online and offline devices.**
...and also **HBS**...cross domain approach

DE,
VUB

2. The HBS data collection as it is now...

- The data collection involves a combination of one or more **interviews and diaries** or logs maintained by the households and/or individuals, usually on a daily basis for **two weeks** (1-4 weeks in some countries)
- The use of paper&pencil diaries is **time consuming** for respondents... and for NSIs!

Aim at finding more attractive ways of collecting the data!

The advantages for using alternative sources in the HBS data collection

Kind of purchased products or designation of the purpose of the expenditure	Country of purchase	Place of purchase	Quantity	Amount	Bio
fresh beans	L	S	500 g	0,99	<input checked="" type="checkbox"/>
canned pineapple	"	"	1, 236 kg	3,56	<input type="checkbox"/>
frozen fish	"	"	450 g	10,24	<input type="checkbox"/>
whole milk	L	D	2 x 1 L	1,92	<input checked="" type="checkbox"/>
semi-skimmed milk	"	"	1 L	0,99	<input type="checkbox"/>
beef	L	E	250 g	5,65	<input type="checkbox"/>
chicken	"	"	200 g	3,95	<input type="checkbox"/>

- *Save time in the compilation of the information for the diary:*
automatically fill and validate some of the data fields

The advantages for automatizing HBS data collection

Please avoid indications such as the number of packets, cans, tins or pieces:

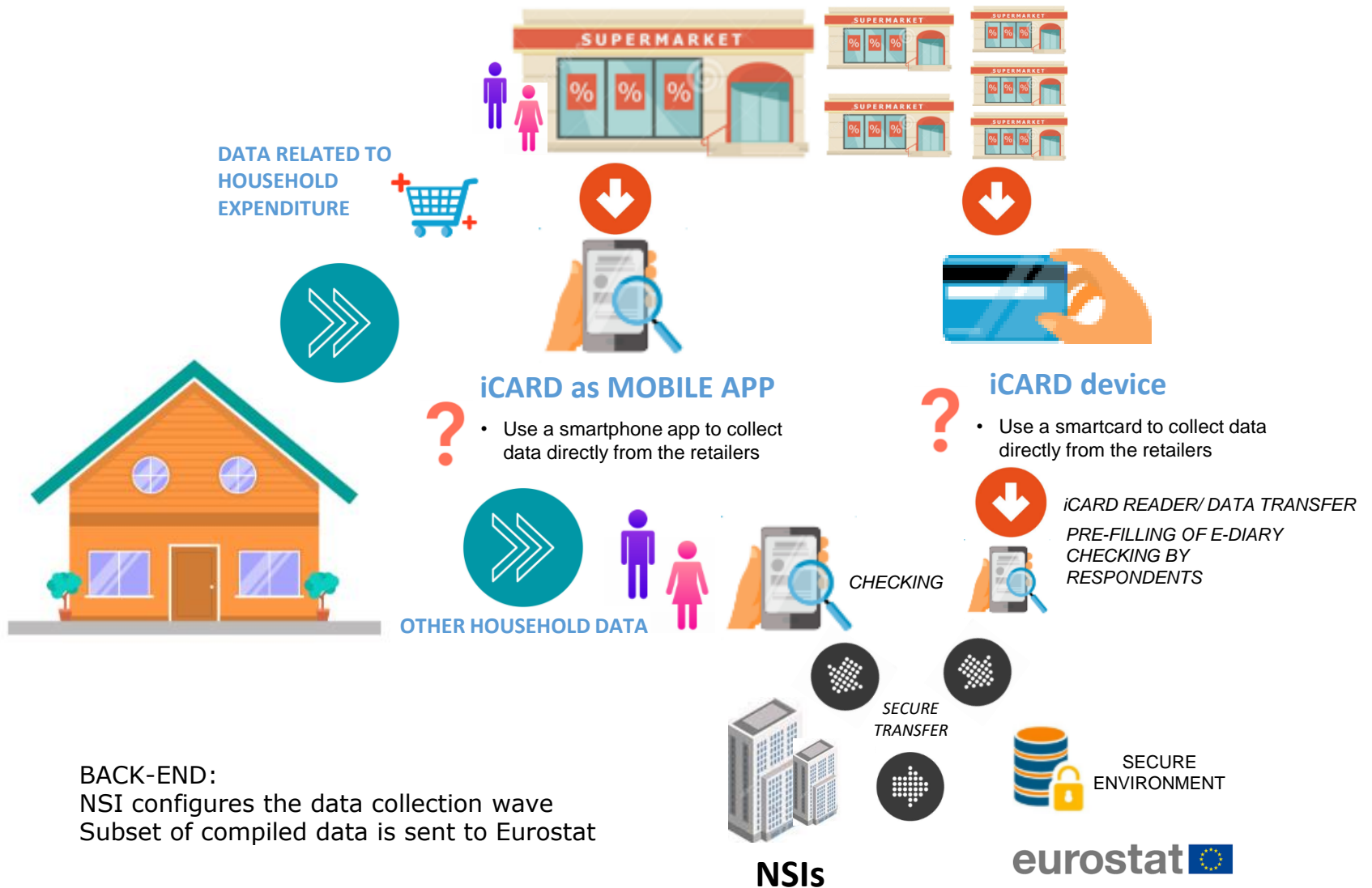
Kind of purchased products or designation of the purpose of the expenditure	Country of purchase	Place of purchase	Quantity	Amount	Bio
canned natural tuna	L	D	1 tin	2,25	<input type="checkbox"/>
biscuits	"	"	2 packets	3,68	<input type="checkbox"/>

Please write instead:

Canned natural tuna	L	D	125 g	2,25	<input type="checkbox"/>
biscuits	"	"	2 x 150 g	3,68	<input type="checkbox"/>

➤ *Also, this would **avoid data entry mistakes and misinterpretations...***

Schema: innovative ways of HBS data collection



Data available from retailers' receipts

- ❖ -Item description (and quantity)
- -Item price (possibly promo info)
- -Total sum of the receipt
- -Date & time
- -Name & address of retail store/-chain (Org. number)
- -Payment mode

Auchan Kirchberg
5 rue Alphonse Weicker
L-2721 LUXEMBOURG
tel : 352/43 77 43-1
www.auchan.lu

Vous avez été accueilli par Dalila
Le 18 février 2019 à 09:19:11

Caisse : 054 Ticket : 34877
Hôte(sse) : 461

PHOTOS D'IDENTITES	1*9,95	9,95	
Total	9,95	€	
TVA%	TVA	Net	Brut
17,00	1,45	8,50	9,95
Brut	1,45	8,50	9,95

Reçu EURO 10,00
Rendu EURO -0,05

1 Articles

Votre ticket vous sert de garantie.
Echange possible sous 15 jours
sur présentation du ticket de caisse.
Votre magasin est ouvert
du lundi au samedi
de 08h00 à 20h00
et le vendredi jusqu'à 21h00

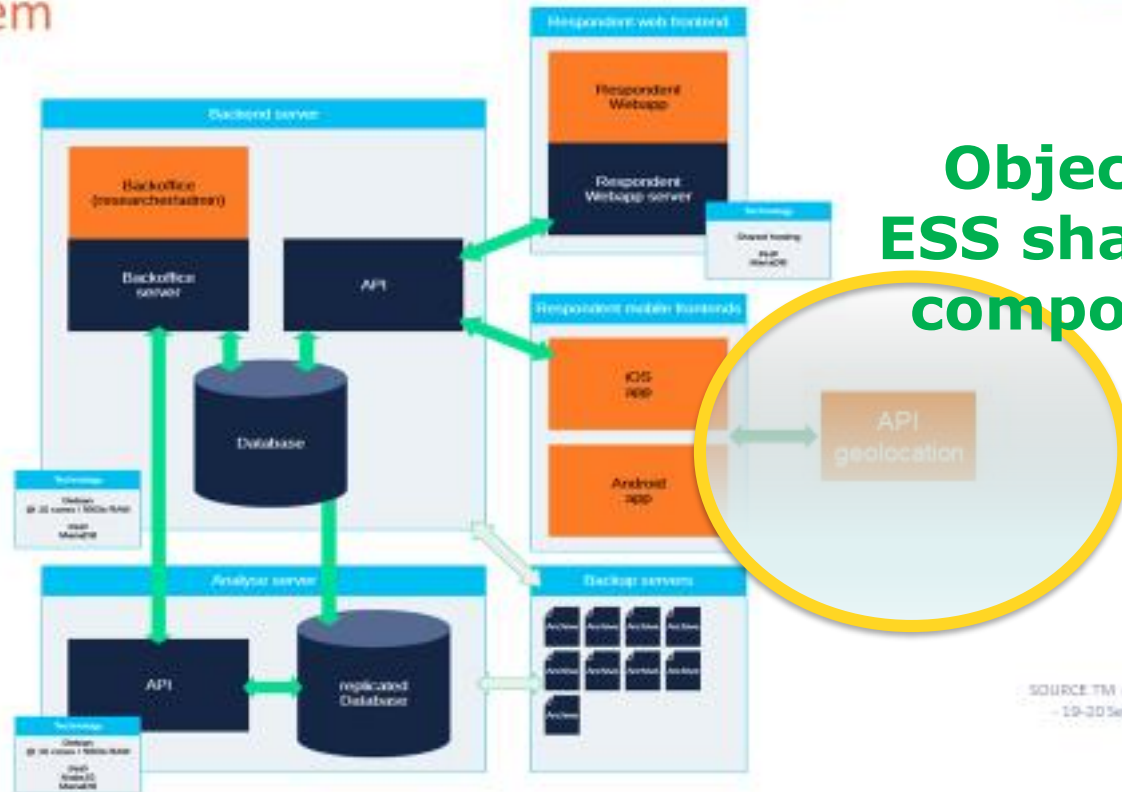
Place of purchase

Time of purchase

Item descr.
Quant&Price

3. Use of Geolocation or similar sensors for TUS data collection

MOTUS-eco system



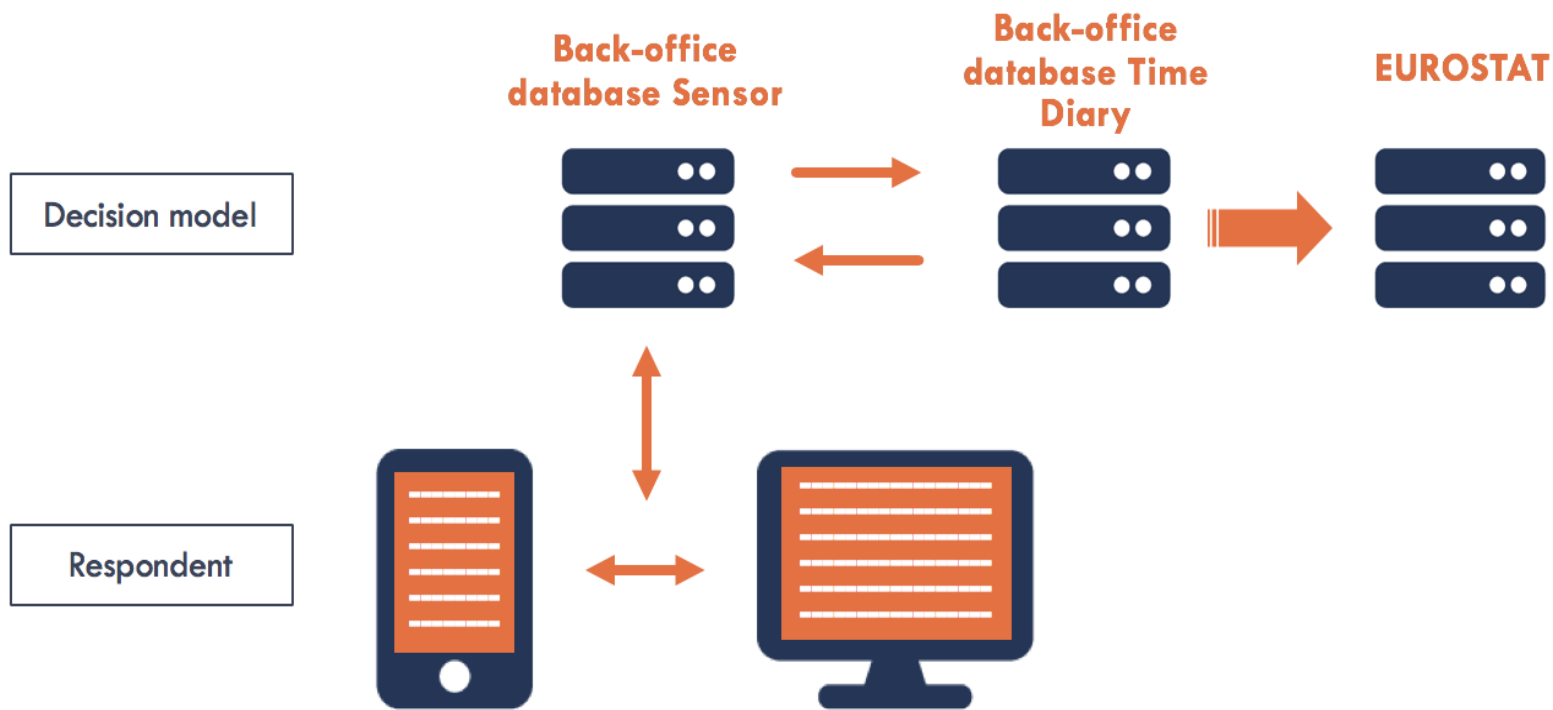
**Objective:
ESS shareable
components**

SOURCE TM - MOTUS
19-20 September
2019

Active interaction with passive input from sensors to gain context



Synchronization of e-diary and the geolocation/geofence information

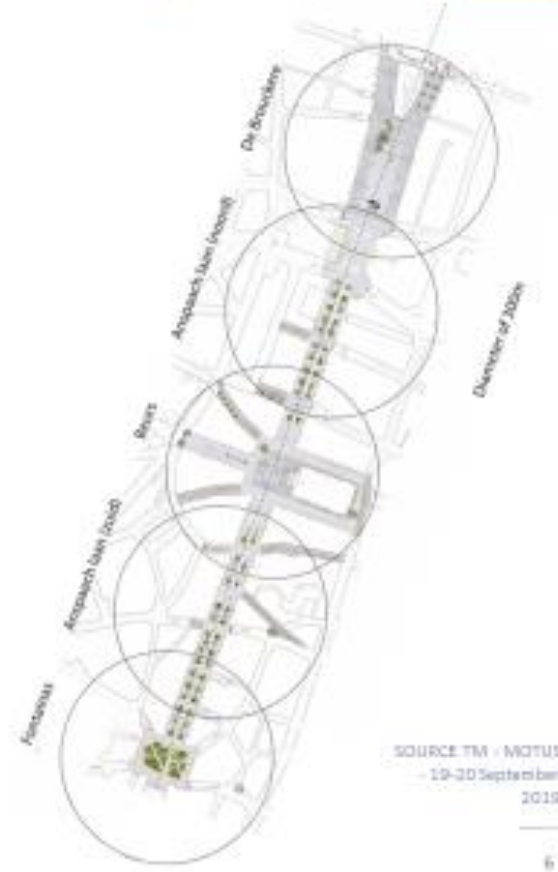


Brussels Pedestrian Area



5 geofences

- De Brouckère
- Anspach (North)
- La Bourse
- Anspach (Sud)
- Fontainas



SOURCE TM - NOTUS
19-20 September
2019

4: Inventory of tools and sources HBS/TUS – “as is”

Tool identification		1	2	3	4	5	6	7	8	9		
Type of information collected (examples)	Source (question)	Aikani	Idömérleg	MOTUS	Xcola	STAT_time	TBO LISS app	Online TUS	No name	Smart Activity Analysis	Inst cour	
Name of the tool	Open text	Aikani	Idömérleg	MOTUS	Xcola	STAT_time	TBO LISS app	Online time use survey	---	Smart Activity Analysis	Inst cour	
Developer	Open text	Part 3 (q 5.1.1)	Finnish Business School Students association	Hungarian Central Statistical Office	Sociology Department - Research Group IIR	Statens Folkeregister	Statens Aikani	Centre Data, Netherlands	Office for National Statistics (ONS), United Kingdom	DESTATIS	SWISS Bank, AT	Centre for Social Science (C4S)
User	Open text	Part 1 (q 5.1.1/2) & Part 3 (q 5.1)	Finnish Institute of Occupational Health	HCSO - Quality of life Department	IIR - Sociology Department, Research Group IIR, STAFIS	IREFIN - Department of Population and social statistics	Statistik - Directorate Social Statistics, Unit Living Conditions, Social Protection	Dutch Institute for Social Research	ONS - Work, living, inequalities, Environment and Sustainability Division	DESTATIS Household Survey, Living	SWISS Bank, AT	Centre for Social Science (C4S)
Aim of the tool	Open text (to collect data for TUS/HBS)	Part 3 (q 5.1.1)	To help people to track their time use, make visible the time used for work, non-paid work and rest.	Data collection	Doing time-use research using online questionnaires - diary through an online tool in combination with an app (as possible available in the future).	Survey tool used for business surveys	to collect time-use data via mobile device	Conducting a time-use survey (in 2012) on the general adult population, respondents were recruited from the CBS-panel	To meet recommendations of the Independent Review of Economic Statistics (IRES, 2016) To collect further data for which to produce the (H) Household Statistics account and to return data for the sustainable development goals	in order to be able to answer the questionnaires/Early test was only paper independent of where respondents live, independent of device (Desktop, tablet, Smartphone), individual items (per person) in level 1 in backoffice (data logging, external communication e.g. Facebook, calendar, reminder, ...)	Measuring temporal distribution of work tasks, working hours and rest, over the course of the day, days of the week, and several weeks. Originally it was used to measure the working time during official or disability duties	Collect study

Firs glance new Inventory look & feel:

<https://webgate.ec.europa.eu/fpfis/wikis/display/ISTLCS/Innovative+sources+and+tools+for+living+conditions+surveys+-+Home>

Inventory of tools and sources HBS/TUS - redesign

European Commission

European Commission

European Commission > Innovative sources and tools for living conditions surveys - Home

INVENTORY

INNOVATIVE TOOLS AND SOURCES FOR HBS AND TUS

This inventory contains a collection of innovative Tools and Sources that are developed and used in Member States, Candidate and EFTA countries. The purpose of the Inventory is to offer an up-to-date view on initiatives and programmes of modernisation of data collection in HBS and TUS.

TOOLS' INVENTORY

SOURCES' INVENTORY

RELEASE NOTES

USER GUIDE

- Innovative sources and tools for living conditions surveys - Home
 - 1. TF JOINT meetings
 - 2. TF HBS
 - 3. TF TUS
 - 4. Global Forum
 - 5. Generic Information
 - File lists
 - GRANT PROJECTS
 - ICARD-GEOL-INV
 - INVENTORY**
 - INVENTORY of Tools and Sources for HBS and TUS
 - Project Management

Inventory > HBS > TUS

use of a wiki platform with specific plugins (e.g. forms, dropdown menu, filter, checkbox, tables, etc.)

Inventory: tool description available in only 1 click...

The screenshot shows the 'TUS TOOLS' inventory page on the European Commission website. At the top left is the European Commission logo. A search bar is located at the top right. The main header is a dark blue bar with 'TUS TOOLS' in white text. Below the header is a navigation menu on the left with a tree structure. The main content area displays a grid of tool cards, each with a title, a small flag icon, and a plus sign in the top left corner. The tools listed are: Aikani (Finland), XCOLA (Belgium), Időmérleg (Hungary), STAT_time (Hungary), MOTUS (Belgium), Online Time Use Diary (United Kingdom), Smart Activity Analysis (Hungary), i-Log (Italy), TimeTracker (Germany), My Time (Slovakia), Instrument for 9 country survey (United Kingdom), TBO LISS app (Slovenia), Online Diary (Germany), Smartime (Italy), and a blue 'Add a new tool' button with a wrench icon. At the bottom right, there is a breadcrumb trail 'tus / inventory'.

European Commission

European Commission

European Commission > ... > TOOLS' INVENTORY

TUS TOOLS

Expand all Collapse all

- Innovative sources and tools for living conditions surveys - Home
 - 1. TF JOINT meetings
 - 2. TF HBS
 - 3. TF TUS
 - 4. Global Forum
 - 5. Generic Information
 - File lists
 - GRANT PROJECTS
 - iCARD-GEOC-INV
 - INVENTORY
 - TOOLS' INVENTORY
 - HBS TOOLS
 - TUS TOOLS**
 - SOURCES' INVENTORY
 - RELEASE NOTES
 - Test macro
 - INVENTORY of Tools and Sources for HBS and TUS
 - Project Management

Aikani	XCOLA	Időmérleg
STAT_time	MOTUS	Online Time Use Diary
Smart Activity Analysis	i-Log	TimeTracker
My Time	Instrument for 9 country survey	TBO LISS app
Online Diary	Smartime	Add a new tool

tus / inventory

Inventory: different tabs with details and possibility to download full description using CSPA templates

European Commission > ... > TUS TOOLS

MOTUS

Report of: [Collapse all](#)

- Innovative sources and tools for living conditions surveys - Home
 - 1. TF JOINT meetings
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 - 3. TF TUS
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 - TUS TOOLS
 - AIKANI
 - Xcola
 - Idómérleg
 - MOTUS**
 - STAT_sma
 - Online Time Use Diary
 - Smart Activity Analysis
 - i-Log
 - TimeTracker
 - My Time
 - TUS_tool_TEST
 - TUS_TOOLS_ID
 - TUS_TOOL_BG
 - SOURCES INVENTORY

[Tool identification](#)
[Business goals, processes, stakeholders](#)
[Validation](#)
[Other sources](#)
[Security Privacy](#)
[Back end](#)
[Front end](#)
[CSPA](#)

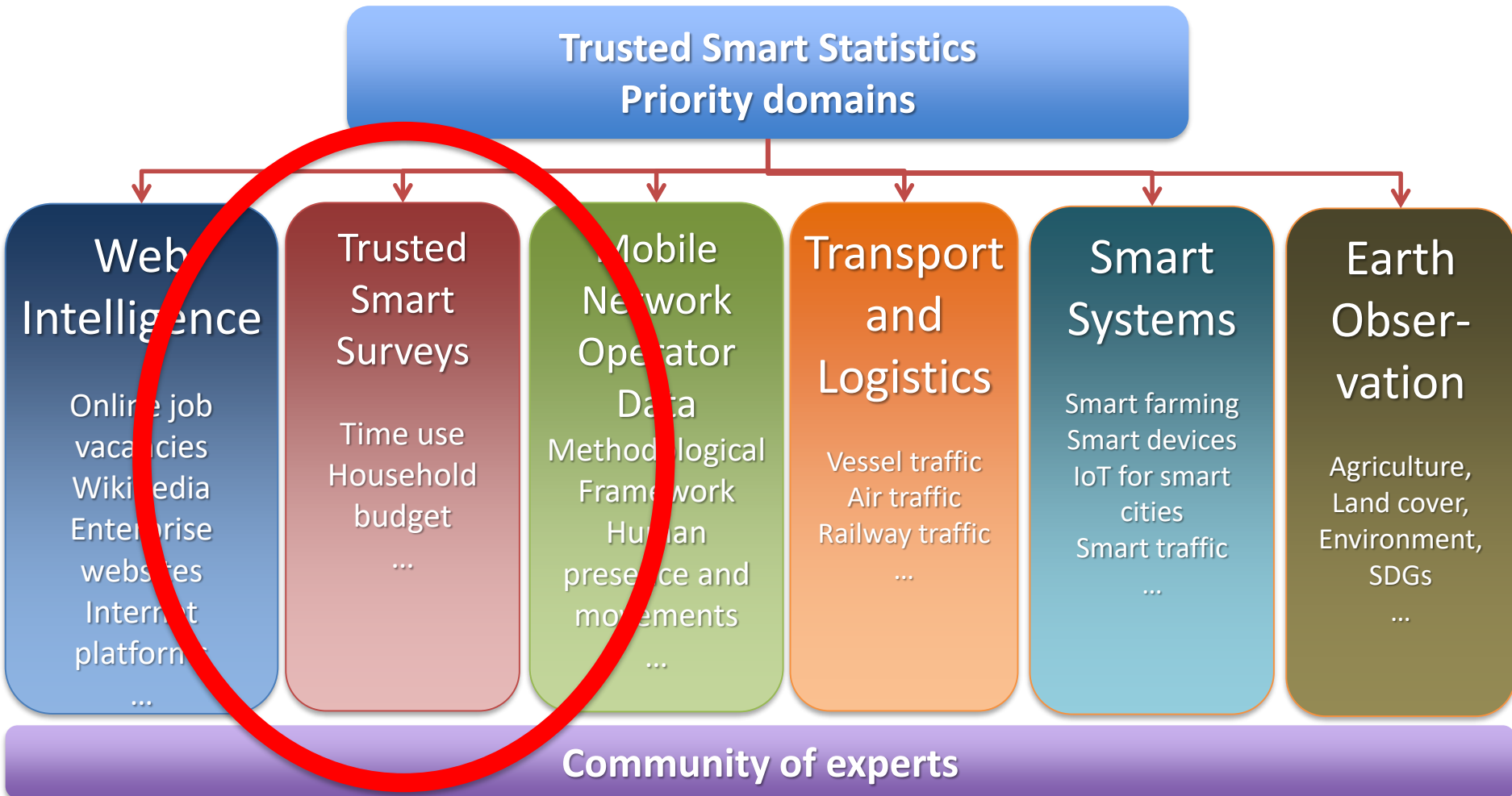
MOTUS

Name of the tool	MOTUS
Developer	Sociology Department - Research Group TOR
User	VUB - Sociology Department, Research Group TOR; STATBEL
Aim of the tool	Doing time-use research using online questionnaires + diary through an online tool in combination with an app (as possibly wearables in the future).
Main function(s)	The MOTUS tool has a back office in which the fieldwork and data management is programmed and organized and a front office (web and mobile application) for data collection.
Parts of the survey addressed by the tool	Diary and questionnaire
Availability of documentation	Playstore for Android, App Store for IOS, www.motusresearch.io
Web application link	www.motusresearch.io
Mobile application link	Yes, via app store - https://play.google.com/store/apps/details?id=be.byteworks.motus&hl=nl - https://itunes.apple.com/be/app/motus-zap-yub/id956934466?mt=8 - https://www.motusresearch.io
Stage of development	Production - Data collection
IP-Ownership	Vrije Universiteit Brussel - Research Group TOR
Patents (i-Depot)	i-depot
Version(s) overview	v2.1.14
Last update	01/02/2016

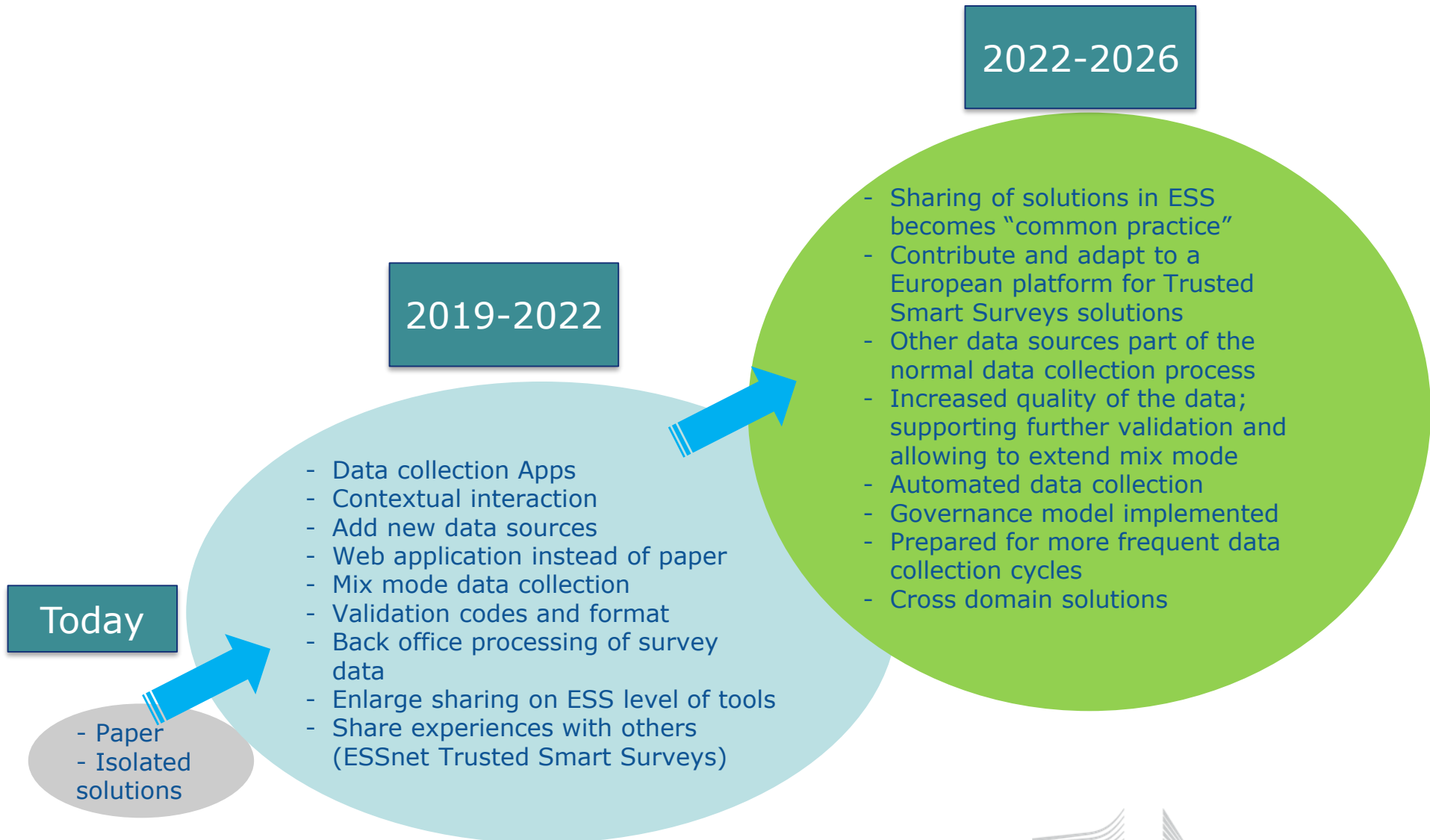
5. Future ... European platform TSS

- *Some of the principles of **Trusted Smart Statistics**: multi-purpose data sources, the hourglass model, modular methodological frameworks, pushing computation out, sharing data without replication*
- *HBS and TUS innovation project provided input for a new ESSnet project (Member States focus) on **Trusted smart surveys***

European platform TSS



Way forward for HBS and TUS in a nutshell...



TUS data collection future...

*Let's simply do it
and go this innovative way
together!*

Project:

Innovative tools and sources for living conditions surveys - HBS and TUS

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