UNECE High-level Group for the Modernisation of Official Statistics

Business Case for Robotic Process Automation in Official Statistics

This business case was prepared by Zoltán Vereczkei, Hungarian Central Statistical Office and is submitted to the HLG-MOS for their approval.	

Type of Activity			
☒	New project	☐	Extension of existing project

Purpose

Statistical modernisation leads to service-oriented solutions, increased trust and higher quality data and services to our users. Modernisation often requires the introduction of new tools or processes to the statistical organisations. In parallel to this, the evaluation of existing solutions, increasing efficiency and effectiveness are equally important. In the current fast-paced environment, statistical organisations are under constant pressure to be more efficient and effective: the timeliness of the statistical products and services, the quality of the processes, as well as the efficient management of resources are all important factors of success.

Statistical organisations often turn to automation techniques to handle complex challenges or repetitive tasks. There are different approaches and tools to achieve this. For the automation of statistical business processes, Machine Learning (and other similar) solutions are on the rise to handle complex statistical business challenges. As an addition to these, robotic process automation (RPA, in short) is a different but similarly promising tool, focusing on other processes of the organisation. Several companies outside of official statistics already use RPA for their processes. Some examples: document and dataset management tasks (preparing, cataloging, enforcing naming conventions, etc.), mass personalisation tasks, dashboard creation tasks, sending/sorting of e-mails, etc. This technique is especially powerful in cases when the tasks are well defined, repetitive and occur in great numbers throughout the year and where human decision-making has no real role due to well-defined rules. Many organisations invest in these techniques to realise return on investment in terms of working hours and money saved and in order to reallocate human resources to more complex and creative tasks of statistical modernisation.

The goal of the proposed project is to introduce robotic process automation to official statistics, to identify the technology, tools and good practices relevant for statistical organisations and the areas where robotisation have added value for different processes. There are statistical organisations that have already invested resources in RPA-related projects, therefore cooperation and experience sharing could enhance their benefits and can also be used as a basis for developing common solutions for the statistical community.

Description of the project and the Work Packages/sub-activities

WP1: Review of current RPA practices and tools. As RPA technology is not new to many organisations and there are companies specialised in RPA solutions, a review of existing IT tools, solutions, good practices is a necessary first step. Based on this exercise, recommendations can be made related to the tools, practices and change management regarding RPA in statistical organisations.

WP2: Business case / identify processes with good RPA potential. The project can start with a very focused, small scale piloting so participants can have an idea of the possible value that RPA could bring. With this and some first potential processes in mind (business case), the focus is on identifying the requirements of RPA and processes where short/mid/long run benefits of this technique are expected in statistical organisations. Processes more directly linked to the statistical

business process and supporting processes may be dealt with separately. As a starting point, the current state of the process needs to be described, modelled. ModernStats models (especially GAMSO, GSIM and GSBPM) can be used to support process modelling to further ensure common language and comparability between organisations.

WP3: Define and undertake common pilots using RPA. If an adequate technical environment can be set up as a sandbox-like solution, then participating members can develop and observe the robots in an actual working environment using the preferred RPA tool (recommendation from WP1).

WP4: Assessment of RPA solutions. Moving towards robotised solutions is an investment from an organisation. As robots mimic the human actions in any process that is already well defined, it is usually a very quick win for the organisation to see the working solution and start to realise the benefits. In order to show the real return on investment, the project should discover the different benefits that are expected from having robots and develop dashboards. Pilots in WP3 can be used as real examples to demonstrate the usability of these dashboards as well.

WP5: Recommendations of using RPA solutions in official statistics. Based on the outputs produced in WPs 1, 2, 3 & 4, the project can provide guidance and draw up recommendations on how to start and go through the whole process of implementing RPA solutions. As potential RPA processes that are more closely linked to the core activities of official statistics are not yet identified by anyone already using RPA solutions, this output will be relevant to the outside world as well, to understand how RPA technology can be used in our domain.

WP6: Visibility and communication. Modernisation potential in RPA is high, capable of producing results in a very short time. Showing these results, including the first steps are key to keep the statistical community involved and interested in the development. There is also a specific communication element to the project, namely how to communicate the use of RPA solutions to the users of statistical products and services. Guidelines, supporting material should be produced and provided to the community in and easy-to-access manner in order to support implementation, modernisation.

WP7: Project management, reporting. The project should be managed by a project manager and frequent reporting should be done according to all expectations.

Project composition

As there are already a few statistical organisations with some RPA experience, participating members with already some experience and new members, not having any experience at all can both add great value. As the RPA technology is an established solution outside of official statistics, external advisors can also be involved at the first stages of the project or for some specific WPs.

Deliverables and timeline

The proposal has the potential for a project managed in 1 year or even 2 years (Options A and B). The scoping of the project (WPs and the expected outputs) and their timing are to be adjusted accordingly to needs and resources (mainly number of countries/experts) committed to the project.

Timeline

Milestones	Option A	Option B
Project set up	2023 January – February	2023 January – March
Phase 1 (WP1-WP3)	2023 March – July	2023 March – December
Phase 2 (WP4-WP7)	2023 July – December	2024 January – December

Deliverables

- Guideline summarising the results and recommendations from WP1-WP5

- Sandbox experiments, mainly from WP3

* If actual pilots conducted in a controlled sandbox environment are part of the project, then the costs of the licenses of the chosen RPA technological solutions have to be calculated in the project budget. Similarly, if the project is expected to propose dashboard outputs to measure the impact of robotised processes, then the license costs of such tools also need to be taken into consideration.

Offices/Countries committed
Hungarian Central Statistical Office

Alternatives considered
Without the cooperation provided by the project, statistical organisations will likely invest in developing solutions on their own. Without the project, providing a common guidance on this topic for statistical organisations and undertaking joint pilot activities will be more difficult. Statistical organisations will need to find their own ways to increase efficiency and quality.

How does it relate to the HLG-MOS vision and other activities under the HLG-MOS?
Processes that are repetitive and that execute well-defined tasks are present in most statistical organisations, there is potential to increase both quality and efficiency. With the practical experiences and guidance provided, the project would support statistical organisations to move faster from development to implementation.

Introducing robots in the world of official statistics has also a significant cultural change value. RPA makes use of new technology: agility and innovation help organisations to become more adaptive to changes in their environment.

Also, there is an added benefit in understanding how the same outcomes are produced by different processes in each organisation: cooperation may lead to rationalisation within each organisation, as well as the development of common solutions.

Proposed start and end dates	
Start: January 2023	**End:** December 2023 (or December 2024)