Piloting standardisation-support services for research projects: preliminary findings

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Abstract: *This paper presents preliminary findings from an ongoing study of the HSbooster.eu (HSB) project, a European Union (EU)-funded pilot initiative that supports EU-funded research and innovation projects through the delivery of a wide set of standardisation-support services. Since its start in April 2022, HSB has employed a "learning by doing" approach across several service phases, including the initial design of a service matrix in the proposal stage and its subsequent revision and expansion following continuous feedback sessions with the engaged projects and standardisation experts. This paper primarily focuses on the outcomes and insights from the so-called "premium" services offered by HSB, particularly one-to-one consultancies, providing a perspective on the challenges within the standardisation process that research projects typically encounter. Preliminary results indicate benefits for projects in terms of reducing the challenges by gaining a clearer understanding of their standardisation potential and the various actions they can undertake within standardisation, in addition to receiving more detailed and personalised support. This research is part of a broader study that will continue to gather and analyse data for a comprehensive report on lessons learned, which will be delivered to the European Commission by the end of July 2024. The aim is to inform future policy and support frameworks to enhance the effectiveness of standardisation in EU-funded projects.*

1 Introduction

HSbooster.eu (HSB) is a pilot initiative funded by the Horizon Europe programme, designed to facilitate the effective integration of standards in EU-funded Research and Innovation (R&I) projects following the guidelines of the European Commission on the Code of Practice for Standardisation. These recommendations push for early integration of standardisation in research, promoting active participation and recognition of standardisation activities in institutional policies and career development. By offering specialised consultancy services, HSB seeks to improve the standardisation capabilities of R&I projects, fostering a better understanding and implementation of standards. The overarching goal is to valorise R&I project results and align them more closely with the European Standardisation Strategy, bridging the gap between research , technology readiness and market uptake. As of April 2024, HSB has successfully delivered over 170 dedicated consultancy services to 146 applicant projects, some of which are still ongoing, with some projects receiving multiple or extended consultancies. Moreover, 8 many-to-many services are being delivered to clusters of similar projects in the form of deep-dive workshop series, and 4 projects have been identified to receive support in the preparation of CEN Workshop Agreements (CWAs). The present paper aims to describe the methodology piloted by HSB for the design and delivery of its standardisation-support services and discuss the preliminary lessons learned.

2 Methodology

In defining its final service matrix, HSB followed a "learning by doing" approach. More precisely, the adopted methodology is grounded in the principles of action research and continuous improvement, which are widely recognised for their effectiveness in pilot projects and service development (Smith and Jones, 2018; Lee, 2019). Action research is particularly suitable for this pilot due to its cyclical process of planning, acting, observing, and reflecting, which aligns with our iterative approach to service enhancement (Kumar, 2020). Our phased approach included the following steps:

Initial design following proposal stage (Apr 2022 - Nov 2022): In the initial phase, the HSB team designed and implemented the service delivery platform and procedures based on the concept presented in the HSB awarded proposal, which foresaw the delivery of short one-to-one consultancies from standardisation experts to applicant R&I projects, identified via open calls and matched based on their field of expertise. The consultancy would always consist of meetings between the expert and the project to be organised over maximum three months. The delivery platform was designed to collect applications from both experts and projects, facilitate their matching, enable sharing of documentation in one central location, and allow HSB to efficiently track the progress of the services.

Launch of first services (Dec 2022 – Mar 2023): Following the design phase, with a functioning platform to manage the service delivery and a set of procedures in place, the first consultancy services were launched. This period was crucial for collecting the first datasets on service uptake and initial feedback, essential for early-stage adjustments.

Analysis of first concluded services and survey feedback (**Apr 2023 - Aug 2023**): The completion of the first cycle of services was followed by a comprehensive analysis, utilising both quantitative data (scores provided by projects and experts via surveys) and qualitative feedback.

Launch of extended services and deep dive workshops (since Sep 2023): The service offering was revised and expanded based on the insights gained from the initial feedback loop and service analysis. This meant the possibility for the same project to request longer services or more services of varying duration. During this period, deep-dive workshops were also launched to address specific needs and common challenges of groups of projects from the same or similar funding calls.

Launch of CWA support service (Since Nov 2023): A dedicated CWA support service was introduced to provide specialised assistance to projects interested in fast-tracking their contribution to standardisation.

Dedicated webinars with the community of projects and experts (Jan 2024 - Apr 2024): After the deployment of the new services, a second round of feedback was collected via a series of webinars conducted with the community of beneficiary R&I projects and standardisation experts. The interaction with a broader community of experts and stakeholders during these webinars aligns with the collaborative approach recommended by Hughes (2021) for maximising the impact and relevance of pilots.

3 Preliminary service matrix and lessons learned

As a result of the methodology outlined in section two, the service matrix has significantly evolved. While initially including only one type of "premium" service, it now consists of four different options, as described below.

Table 1: Revised premium service matrix

Name of the service	Description	When it is indicated	Value for projects
One-to-one consultancy	Short, focused sessions between a standardisation expert and a project team, typically consisting of two to four meetings over up to three months. This service focuses on specific standardisation-related aspects, including standard mapping and engagement strategies.	Best suited for projects, at any stage, needing targeted advice on specific, manageable standardisation challenges, such as understanding the standardisation landscape in their field and aligning their results with existing standards.	Offers personalised guidance, clarifies standardisation processes, and helps in identifying relevant standards.
Extended one-to-one consultancy	More in-depth and extended engagement allows for up to six days of consultancy spread over the project's timeline, providing a deeper dive into standardisation processes, including developing future strategies and deliverables.	Ideal for projects needing in-depth support or facing more complex standardisation issues, such as understanding how to concretely contribute to standardisation gaps.	Provides detailed, sustained support and deeper engagement with standardisation experts, enhancing project outcomes.
Deep dive workshops	Workshops addressing common challenges among clusters of projects, involving multiple experts and featuring interactive sessions.	Recommended when several projects from the same or connected funding calls face similar issues or can benefit from shared learning experiences.	Facilitates community learning, offers insights into standardisation challenges, and provides collective strategies for multiple projects.
CWA support	Specialised support for projects aiming to fast-track their contributions to standardisation through the development of CWAs. Includes payment of a portion of the secretariat fees requested by National Standards Bodies (NSBs) and technical support to write the CWA	Essential for projects looking to have a direct impact on standard development and contribute to formal standards.	Accelerates the contribution to standardisation with financial and technical support for engaging in formal standard development processes.

Based on the preliminary analysis of these services, a series of preliminary lessons learned can be extracted.

Lesson#1: One size does not fit all **-** The diversity in project stages, technological and innovation domains, experiences, and expectations necessitates a flexible approach to consultancy services. The initial assumption that a standard model for premium service consultancy would suffice was quickly found to be inadequate.

Lesson#2: Standardisation readiness assessments are key **-** During the one-to-one consultancies, many projects received a preliminary standardisation readiness assessment from the assigned experts, initially developed autonomously and then carried out with a specific tool built by HSB, the Standards Orientation Tool (SOT). This step was fundamental to help tailor the consultancy services according to the projects' specific stages and needs and maximise the impact of subsequent advisory sessions.

Lesson#3: More guidance is needed to identify and navigate standardisation pathways Projects often recognise the need to engage with Standard Development Organisations (SDOs) and contribute to standards but are unclear about the pathways to follow.

Lesson#4: There is a gap to bridge between standards' descriptions and practical applications **-** A significant obstacle to the adoption of standards is the gap between the written standards documents and their practical implementation at the industrial level. This discrepancy represents an initial barrier for projects interested in standards. However, this also presents an opportunity for projects to serve as 'sandbox' environments, where they can demonstrate concrete implementations and provide real-world examples.

Lesson#5: Focussed standardisation strategies and engagement plans tend to be more effective **-** Projects that received detailed, actionable plans for engaging with standardisation bodies and processes not only saw more direct benefits in aligning their work with relevant standards but also in strategic positioning for future development. These plans often included recommendations for active participation in Technical Committees (TCs) or Working Groups (WGs).

Lesson#6: Leveraging group dynamics and creating synergies can boost impact **-** The deep dive workshops, which clustered projects with similar challenges or thematic focuses, alongside extended consultancies that offered a deeper insight into each project's ecosystem, cultivated a highly collaborative environment. These synergies were found to be especially valuable for smaller projects or those in earlier stages of development.

Lesson#7: CWAs bear some level of risk that requires dedicated support initiatives **-** The process of developing CWAs, despite providing simpler and faster contribution to standardisation, can still be lengthy and demand significant upfront investment, both in terms of time and funding, which introduces a degree of risk for projects. This financial commitment can be particularly burdensome for smaller projects or those at an early stage of development. The dedicated support service from HSB is helping to overcome this type of barrier.

4 Conclusions and future research

This study presented the preliminary results from our analysis of the standardisation support services offered to R&I projects. By sharing the piloting methodology and the initial lessons learned, this work contributes to the broader debate on standardisation practices within the realm of EU-funded research with particular emphasis on best practices, main shortcomings and potential future policy actions. As HSB approaches its conclusion, these insights will be further refined and expanded, offering more comprehensive guidance as well as strategic recommendations to enhance the effectiveness and impact of standardisation in R&I.

5 References

Hughes, A. (2021). Collaborative Innovations in Pilot Project Designs. *Innovation Management Review*, 12(3), 45-59.

Kumar, V. (2020). Action Research in Pilot Studies: A Framework for Continuous Improvement. *Educational Researcher*, 49(4), 273-289.

Lee, C. (2019). Effective Early-Stage Testing of Innovations in Service Design. *Service Science*, 11(1), 82-98.

Smith, L., & Jones, F. (2018). Continuous Improvement Strategies in Industry Pilot Projects. *Operations Management Journal*, 36(4), 418-433.