

Implementation of Action 7 in the EU Action Plan for Grids

DSO/TSO Technopedia

ENTSO-E & DSO Entity

18th December 2024

Disclaimer

The content of this document will be subject to further refinement in 2025 and beyond. Amendments are foreseen through a trial-and-test approach, aiming to make DSO/TSO Technopedia an effective platform for grid technology knowledge sharing.

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1 Background and scope for the joint work

1.1 Background and scope

In October 2023, the European Commission published the Action Plan for Grids (COM/2023/757),¹ a strategic document aimed at developing and strengthening Europe’s electricity grids to support the energy transition. As part of this initiative, DSO Entity and ENTSO-E (hereafter “the associations”) have been jointly tasked with showing commercially available technologies that can enhance the utilisation, stability, security, and resilience of the electricity grid.

The associations will establish a collaborative, knowledge-sharing platform about grid technologies and use cases for distribution and transmission system operators (SOs) to fulfil this task. While the platform will emphasise the perspectives of SOs, it will also allow external stakeholders to contribute valuable information on specific grid technologies and their use cases. Throughout developing this platform, the associations will act as moderators, ensuring that the SOs’ focus is upheld while maintaining the quality and accuracy of the published information. This transparent approach – encouraging the submission of valuable insights from technology providers, policymakers, and the broader public – will ensure that the platform remains inclusive, non-discriminatory, and representative.

The associations provide a first outlook on the formal processes and guidelines for including use cases on the platform via this initiation document. This includes preliminary drafts for standardised templates, defining submission and review criteria, and establishing a timeline for application submissions.

Furthermore, following the publication of this initiation document at the end of 2024, the implementation phase will progress in 2025. During the implementation phase, the methodology outlined below will be formally presented to external stakeholders via an informative webinar, the platform will be launched and refined, the application templates and processes for integrating technologies will be finalised based on feedback received, and a submission window will be opened.

Therefore, by the end of 2025, the associations will focus on continuously improving the platform and compiling an initial comprehensive list of technologies applicable to both distribution system operators (DSOs) and transmission system operators (TSOs).

1.2 Stakeholders’ engagement

The associations actively sought to garner meaningful support and collaboration with relevant stakeholders at this early development stage to ensure that the platform’s development is approached inclusively and transparently. The list of stakeholders that the associations have engaged in this initial phase can be found below:

- European Commission (DG ENER)
- E.DSO (DSO association)
- Eurelectric (association for power generation, distribution, and supply)
- CurrENT (grid technology association)
- T&D Europe (grid technology association)

¹ EU Action plan for Grids: [EUR-Lex - 52023DC0757 - EN - EUR-Lex](#)

2 Application guidelines

As briefly introduced, in addition to the use cases provided by the associations, the platform will also be open for stakeholders' applications to publish use cases on specific technologies. The associations will thoroughly review each application to establish its validity for publication. Thus, submission shall not be assumed to lead to certain publication.

One publication cycle is foreseen for each calendar year. The submission window will have a specific deadline, which should be respected for the application to be considered for the current publication cycle. In case of a missed deadline, applications will be considered for the next publication cycle.

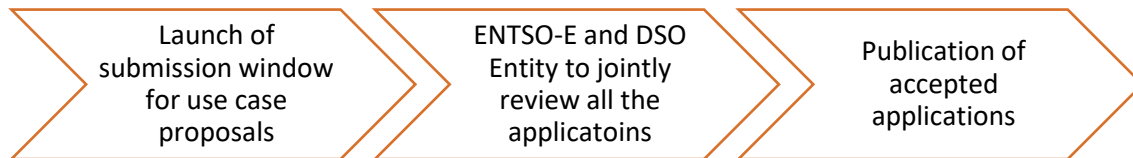


Figure 1: Process for publishing technology use cases from external stakeholders in the DSO/TSO Technopedia

2.1 Criteria for submission

Applications should only be submitted for use cases relative to technologies included in the scope of the platform. A technology list will be published – together with submission guidelines – at the beginning of the submission window. Any use case on off-topic technologies will automatically be excluded from the review process. Submissions on technology components rather than technology use cases will also be excluded.

Criteria for submission:

1. Applications must be submitted jointly by the stakeholder and at least one SO.
2. All applications must comply with the templates provided.
3. Stakeholders – in cooperation with SOs – can also submit information about the general technology description, although it will only be treated as input material for the general technology description. The final generic description of each technology will be written and agreed upon by the associations.
4. Applications must comply with the maximum word number stated in the guidelines.

The associations will review the submitted applications that comply with the submission criteria. The technology use cases will be published if the associations approve the application during the review process and according to the reviewing process guidelines as described in paragraph 2.2.

2.2 Review process

The associations will carry out a thorough and transparent review of the applications following the submission window as outlined in chapter 4. The review process will only apply for use cases of the technologies in scope that fulfil the criteria described in paragraph 2.1. The process will be transparent and established for each year in accordance with the following guidance criteria:

1. The use case must be specific and clearly connected to one technology.
2. The use case should concern the overall technology and not a component or sub-part of it.
3. The specific maturity level must be described.
4. The results and benefits of the use cases must be clearly stated.
5. The descriptions of results and benefits must be technology neutral.

For submissions that are incomplete or defective, the associations can complete and adjust descriptions to make them suitable for publication. This can also be achieved by merging different submitted materials together or selecting the most relevant submissions based on multiple applications submitted within the same technology. Major changes will only be undertaken with the consent of the applicants.

The intention of publishing existing technology use cases is to show how technology implementations in a real-world operational environment can benefit the system as described in the EU Action Plan for Grids. Submissions with commercial promoting intentions will not be published unless they are adjusted to be in line with the provided guidelines and templates.

3 Technology template

Each technology will be described according to a common template. The finalised template will be shared with the call for submissions.

The technology template is split into two sections:

1. Technology general description (paragraph 3.1).
2. Specific projects showcasing a concrete implementation and use cases for the concerned technology (paragraph 3.2).

The submission of the technology general description is optional.

3.1 Generic technology template

The technologies shall be described based on the template below. As previously explained, stakeholders can include or omit the general description when submitting the application.

General description of the technology: What is it? How does it work? Existing different types of the technology.
Benefits
What challenges or problems does the technology solve? What are the benefits of the power system by adopting the technology? Explanation of the benefits of the technology in the power system (at both the distribution and transmission level, when applicable). Cite and link any relevant policy target that the technology can help to achieve. Cite and link relevant strategic documents such as ENTSO-E Research, Development and Innovation (RDI) Roadmap 2024, ² DSO Entity Technical Vision 2024, or similar relevant documents.
Current enablers
Market, regulation, standardisation, and technology aspects that already exist and help the adoption of the technology.
R&D needs
Challenges to the development/adoption of the technology. Challenges are closely linked to the need for research and development as they can partly justify the assigned technology readiness level (TRL). Where is there room for improvement to speed up the R&D process and scale up the adoption of the technology? If possible, highlight the R&D priorities.
Technology readiness level (TRL)
TRL should be assigned following the common guidelines.
Review process
Date when the page was last reviewed and updated. If there is a review planned in the future, there should be a date stated and a process for the planned review.
References
List of references.

² Link to RDI Roadmap 2024: [Research, Development and Innovation Reports](#)

3.2 Project template

The use cases shall be described based on the template below.

DSO and/or TSO applications

Brief description
Location and year of commissioning. Introduction and description of the technology application, objective, and how to reach the objective.
Design
Technical configuration, country-specific relevant circumstances for the technology application, and difficulties/challenges with implementation.
Results
Gains and advantages, consequences for existing work processes, and other operational impacts. Quantitative results should be provided when feasible.

4 2025 Timeline

To best approach the DSO/TSO Technopedia development, the associations will seek to continuously establish the most effective and efficient methodology to show grid technologies. For this purpose, the associations will further collect feedback on the outlined processes in Q1 2025.

Figure 2 shows the planned implementation timeline for 2025, however it may be executed within a margin of error.

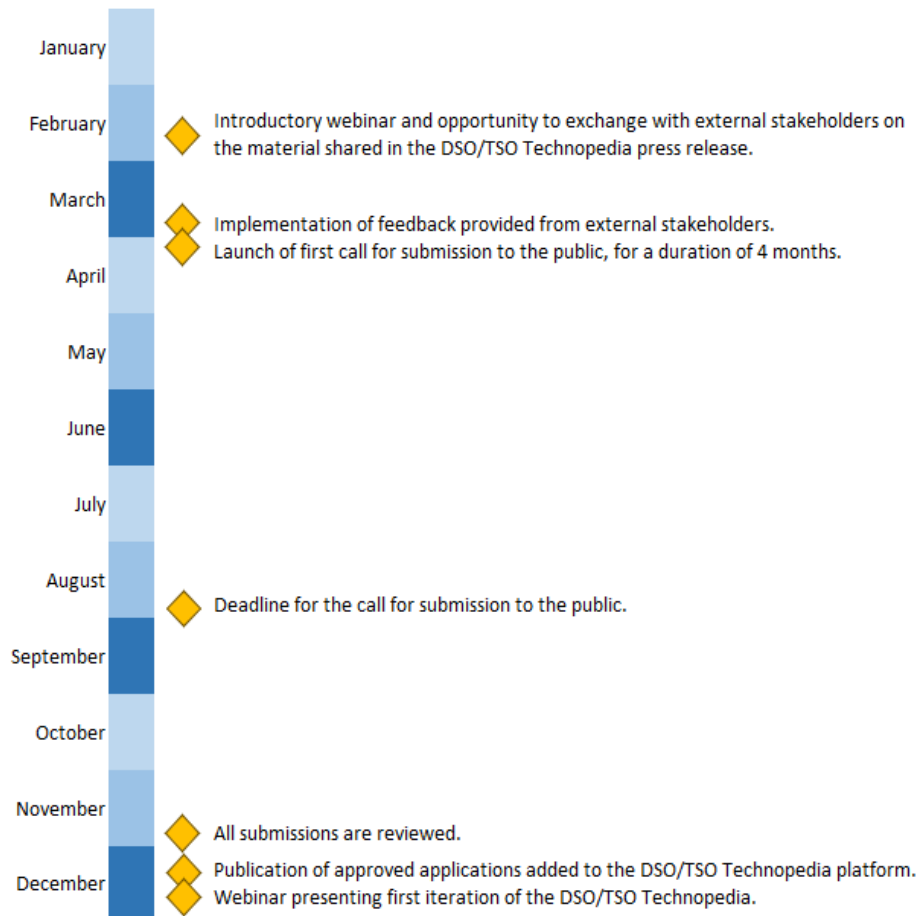


Figure 2: Implementation timeline for milestones in 2025