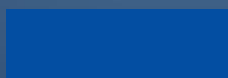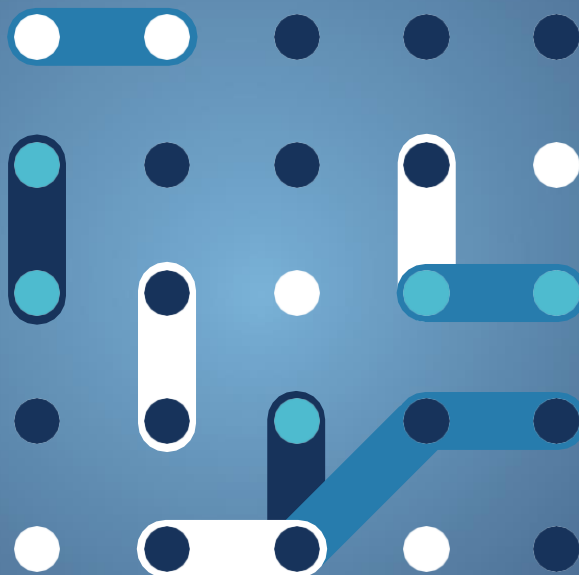European Commission

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Introduction

Context

BRIDGE is a European Commission and CINEA initiative, established in 2016. It consists of a collaborative community involving projects funded under the Horizon 2020 and Horizon Europe programmes in the areas of Smart Grids, Energy Storage, Islands and Digitalisation.

The aim of the initiative is to bring together experts from various fields and foster collaboration towards the common goal of achieving a seamless and sustainable integration of the aforementioned sectors, creating a more efficient and effective infrastructure for Europe.

The BRIDGE initiative is centered around cross-cutting issues, that are categorized into four different working group, namely:

- Consumer and Citizen Engagement Working Group
- Regulation Working Group
- Business Models Working Group
- Data Management Working Group

The four different working groups are key hubs where experts can exchange best practices and engage in collaborative sessions to explore and discuss common innovation challenges. These groups meet regularly through working group meetings, cross-group workshops, and webinars, converging at the General Assembly where they present their annual achievements to both the BRIDGE community and the European Commission representatives. Drawing on feedback and suggestions from the Commission, they brainstorm and discuss how to organise their work for the coming year to better support policy development.

The General Assembly is an annual event designed to facilitate structured dialogue and cooperation among BRIDGE member projects. It provides a dynamic platform for sharing project results, fostering engaging discussions, and exchanging experiences. This event aims to enhance collaboration and establish European best practices and standards through comprehensive interactions and insights from various projects.

The latest General Assembly took place on 9th and 10th of April in Brussels, bringing together the members of the BRIDGE initiative both on site and online, for a day and a half. The main objectives of the General Assembly are to: i) present and discuss key achievements of BRIDGE in the previous year; ii) showcase project results and share lessons learned and experiences; iii) discuss and agree the next year activities through various interactive sessions. The Commission services update the BRIDGE community on the latest policy developments that are relevant to the projects' activities, as well as to the BRIDGE joint work.

The purpose of this document is to summarise the key takeaways of the discussions that took place at the General Assembly 2024.

BRIDGE in numbers

BRIDGE is composed of over 183 projects, 105 of which are currently ongoing. These projects involve stakeholders from 39 countries and more than 2000 different organisations. BRIDGE projects are funded by Horizon 2020 and Horizon Europe, with a total EU contribution of €1.6 billion.

Overall, the 2024 General Assembly was attended by over 220 project representatives from 92 different projects and 149 different organisations Out of these, 96 participants joined the event in person:

- 64 participants representing 55 different projects and 47 different organisations;
- 18 participants representing the European Commission;
- 14 participants representing the BRIDGE Secretariat.

Furthermore, more than 170 participants attended the event online, representing 78 different projects and coming from 126 different organisations.

The event also featured presentations from 6 completed projects, focusing on main project outcomes and key exploitable results (KERs), as well as their lessons learned and benefits deriving from the participation in BRIDGE. It also provided a platform for 19 newly launched projects to connect with the BRIDGE community. The new projects showcased their work and expected results through a dedicated exposition area.

Main presentations

The 2024 General Assembly featured a rich agenda, structured in both plenary sessions and breakout sessions, which allowed for member interaction and ensured the gathering of feedback and comments from BRIDGE participants and the representatives of the European Commission. The agenda included various informative sessions, including policy development updates, spotlight sessions on external initiatives and project showcases. The full agenda of the event is presented in the Annex section.

Day 1

The first day opened with a welcome and introductory speech from Vincent Berrutto, Head of Unit - Digitalisation, Competitiveness, Research and Innovation, Directorate-General for Energy, European Commission, followed by a presentation on the composition, participation, and importance of the BRIDGE initiative. This was followed by a policy update session by DG ENER Policy officers, on three different topics.

1. Ricardo Renedo Williams presented the **EU Grid Action Plan**, providing an update on the key challenges in upgrading, digitalising, and optimising the EU's electricity transmission and distribution networks. The plan outlines specific actions tailored to facilitate the necessary investments and align European grids with our 2030 goals.
2. Adriana Guth provided a comprehensive update on the latest **regulatory developments regarding demand response**, including an overview of the current flexibility requirements and the need to enact the Clean Energy Package as well as the ongoing work to develop a network code on demand response. The presentation also emphasised that the reform of the electricity market design introduces new provisions for flexibility.
3. Pablo Riesgo Abeledo provided the latest policy updates on the **Net-Zero Industry Act (NZIA)**. His presentation provided a comprehensive overview of the overarching objectives, scope, coverage, tools, and strategic priorities of the Act in the context of achieving net-zero emissions. He also stressed the linkages with, and importance of NZIA for grid technologies and outlined a preliminary timeline for the implementation of the Act.

This was succeeded by a showcase of six completed BRIDGE projects, including PLATONE and OneNet (presented by Antonello Monti, *Fraunhofer FIT*), TRINITY and X-Flex (presented by Manuel Serrano, *Grupo Etra*), EUniversal (presented by Kris Kessels, *VITO*), and ebalance-plus (presented by Krzysztof Piotrowski *Leibniz Institute for High Performance Microelectronics - IHP*). The showcase aimed to give an overview of each project, outlining objectives, consortium members, organizational aspects (funding, duration, TRLs), followed by a detailed description of the Key Exploitable Results and outcomes achieved, impacts, post-conclusion results, benefits obtained from BRIDGE, and lessons learned. For further details on the session content, please refer to the slide deck attached in the Annex.

The session was followed by an interactive discussion moderated by the Secretariat. This session was built on a survey circulated to BRIDGE members prior to the General Assembly. The survey aimed to gather feedback on several key points: members' aspirations for 2024, suggestions on how BRIDGE could best support recent policy developments in the energy sector, and which BRIDGE best practices should be replicated and maintained in the future. During this presentation, all members of the initiative were encouraged to discuss the results of the survey and make further suggestions for improving the initiative.

The first day of the meeting concluded with a Spotlight Session on other initiatives active in the energy field. This session featured presentations on ETIP SNET by the vice-chair of the initiative Norela Constantinescu (ENTSO-E), ISGAN by Mark Stefan (AIT), and a presentation on DG ENER's international engagements by Peter Horvath (DG ENER).

Day 2

The second day of the meeting kicked off with a welcome and wrap-up from the previous day by George Paunescu, policy officer in DG ENER.

This was followed by a policy update session by DG ENER and DG CNECT, on three different topics:

- Szymon Lewandowski, Legal and Policy Officer at DG CNECT, provided an update on the **Data Act**, which entered into force on 11 January 2024 and will apply from September 2025. The Data Act is a comprehensive initiative aimed at addressing the challenges and seizing the opportunities related to data in the European Union. It lays down legal provisions for fair access to data and user rights, while ensuring the protection of personal data.
- Evangelia Markidou, Head of Sector at DG CNECT, introduced the **European AI Innovation Package**, highlighting a Communication on boosting start-ups and innovation in trustworthy artificial intelligence. This outlines a strategic investment framework to capitalize on the Union's assets and foster an innovative European AI ecosystem.
- Anna Sobczak, Policy Coordinator at DG ENER, introduced the revised **Strategic Energy Technology (SET) Plan for Europe**, highlighting updates made since October 20, 2023. The presentation outlined key revisions, including the expansion of the technology scope and the establishment of cross-cutting task forces.

Following the policy session, Ugo Stecchi (ETRA) presented an overview of the BRIDGE use case repository developed by the Data Management WG Action 1.

After this presentation, the second day of the General Assembly was dedicated to breakout sessions for each working group dedicated to discussing and agreeing on the main activities to be undertaken by the groups over the next year, until the next General Assembly. This followed by WG presentation of the results of their discussions to a plenary session. Mark van Stiphout, Deputy head of Unit - Digitalisation, Competitiveness, Research and Innovation, DG ENER presented the Commission feedback on the results of the discussions and draw the final conclusions on the activities proposed by the working groups for the next year. Further details can be found in the following chapters of this document. The General Assembly concluded with a presentation of the BRIDGE Charter by the Secretariat and closing remarks by the Secretariat, the Commission, and the BRIDGE Leaders.

For more information on the topics discussed, please refer to the slide deck (Day 1 and Day 2) presented during the meeting.

Main conclusions

The General Assembly was an opportunity to collect inputs and feedback from the BRIDGE community and the European Commission on the initiative. The participants expressed, like in the previous year, their satisfaction of being members of the Bridge community and outlined some of the main benefits drawn from this membership. The following aspects were raised:

Possible new topics to be integrated in the discussion for the upcoming period:

- Artificial Intelligence applied to the Energy System;
- Cybersecurity;
- E-mobility and linkages with the grids;
- Identification of tools to measure engagement;
- Inclusiveness in the energy projects.

Possible areas for improvement from an operational perspective:

- Organisation of meetings on a more regular basis within all the different working groups and organisation of in-person meetings;
- Streamlining the onboarding of new projects into the activities of the BRIDGE community;
- Clustering projects with unique topics or identifying fringe projects and grouping them for joint work;
- Continue to foster cross-collaboration with external initiatives (e.g. ETIP SNET, ISGAN) and between the different WGs.

Identified best practices to be replicated in the future:

- Knowledge sharing, dissemination of best practices (i.e., use case repository and its dissemination);
- Promotion of internal and external communication flows:
  - Cross-WG collaboration;
  - Synergies with external initiatives (i.e., ISGAN, ETIP SNET, etc.);
- Bottom-up approach to identify topics and research questions to be explored within the WGs.

Possible ways to foster BRIDGE support to policy development:

- Further involvement of regulators and policymakers in the activities of WGs;
- Participation in policy events;
- Inform policy development (i.e., contribution to policy related-consultations, feedback on the regulatory barriers faced by projects);
- Strengthen the connection with EC contact points.

Consumer and Citizen Engagement

Background

The Working Group on Consumer and Citizen Engagement was established with the aim of creating a structured cross-cutting understanding of the role and methodologies of engagement in European R&I projects towards better understanding, triggering, and leveraging the action of consumers and citizens in the energy landscape. Focal points of the group are the identification and discussion of engagement strategies, indicators to measure engagement and smart tools that either can support engagement or help with the measurement.

Consumers and citizens are crucial actors to be considered and engaged in achieving a just and sustainable energy transition in Europe, and beyond.

The Consumer and Citizen Engagement Working Group is currently working on 3 overarching themes, which are the core focus of 3 different sub-groups, specifically:

- **Smart Tools**: the main objective of this sub-group is to analyse strategies and tools for a wider inclusion in the use of digital solutions, in terms of accessibility, affordability, and automation.
- **Indicators of engagement:** the main objective of this sub-group is to create a scientific sound and practical relevant methodology of selecting and measuring indicators of engagement.
- **Strategies of engagement:** the main objective of this sub-group is to understand and analyse engagement strategies applied in European Energy projects and identify best practices and challenges associated with these strategies.

Conclusions

For the individual actions, following main outcomes and conclusions for 2023 were presented:

- **Smart Tools**: During 2023, the main outcomes from this sub-group were the identification of interoperability and user-friendliness as top priority for tool-development, gaining consumer trust as crucial aspect for the success of smart tools Co-creation with the users and continuous improvement leads to successful implementation of smart-tools.
- **Indicators of engagement:** During 2023, the main outcomes from this sub-group were the Identification of theories of engagement for Indicators selection, and the extension of an extensive list of indicators allowing to measure different aspects of engagement. Furthermore, emotions were identified as an important, but often neglected, aspect to improve and understand engagement of citizens and users.
- **Strategies of engagement:** During 2023, the main outcomes from this sub-group were the analysis of types of engagement strategies applied in R&I projects, and classification into 4 main categories to support planning, as well as an analysis of challenges and recommendations in engagement supporting the notion that, the engagement action should be best understood as a circular process with 4 phases and that attention should be paid to inclusion in current engagement strategies.

The breakout session of the Consumer and Citizen Engagement during the General Assembly was an interactive session divided into two breakout rooms, one in-person and one online. After presenting several overarching goals (e.g. better collaboration with other institutions, increase visibility to the outside) the main aim was to get suggestions from the broader audience on potential topics for the work in the next circle. Through engaging tools like Mural and Mentimeter, several areas of interest were identified for consideration by the WG, including inclusiveness, identification of tools to measure engagement, stakeholder engagement in projects and working on collective forms of citizen and user engagement (e.g. energy communities).

After identifying the main areas of interest, the group brainstormed on possible research questions related to identify suggestions for each area of interest to be addressed as future work for the working group: a tentative list of key issues was identified.

Next steps

The activities of the Working Group in 2024 will address the key issues identified in the effort to answer the research questions, keeping the focus in line with the feedback from the Commission, which strongly supports the inclusion of research on AI. The overall focus will remain on consumers and citizens. In addition, through collaborative discussion within the group, each sub-group will identify specific research questions from the key issues identified. To achieve this, first next steps for the overarching goals for the working group have been identified and are detailed in the attached figure. The content-related focal points for the next year will be determined, building on the outputs of the GA, in the first subgroup meetings beginning of June.

Items to address and further improvements	Expected Output	Possible partnership to leverage (in BRIDGE/external)	Possible engagement activities (webinar, workshop, in person meetings…)
How to better collaborate between the Subgroups? How to better collaborate with organisations outside of the WG? Is it possible to develop consortia for proposals out of the WG? How can we become more visible for the world outside of BRIDGE?	Joint webinars Joint webinars/workshops Presentation of potentially relevant calls in the WG-meetings (Eva) Participation at conferences with BRIDGE sessions/topics	Other BRIDGE WGs, ETIP-SNET, DUTpartnership, COST-Actions	Proposal to EURegio-week

Regulation

Background

The Regulation Working Group focuses on various regulatory aspects in the energy sector, structuring its activities around the **regulatory barriers for energy storage and smart grids,** the identification of best practices and the provision of recommendations. In 2023, the WG contributed to this overall objective via 6 different actions of which the main achievements were presented during the BRIDGE General Assembly.

The 6 main activities of the WG Regulation are the following:

- **Action 1**: Improve market access for consumers to value their flexibility: which regulatory barriers for individual consumers exist that hinder the valorization of their flexibility via implicit and explicit flexibility mechanisms?
- **Action 2**: Peer-to-peer and energy sharing: What is the role of peer-to-peer and energy sharing in the overall market design? What are the barriers, and how are they an enabler for the uptake of energy communities?
- **Action 3**: Energy and flexibility market coordination and integration: What are existing 'market design' barriers to arrive at integrated and coordinated markets in Europe?
- **Action 4**: Support the potential synergies coming from increased sector coupling/sector integration/system integration: Which are current regulatory barriers that limit the potential of sector coupling and sector integration?
- **Action 5**: Support the system operators to prepare the grid for 2030: Which innovations are needed to advance processes and tools of network planning and network operation?
- **Action 6**: Data spaces: What are regulatory barriers to tackle in support of data spaces?

Conclusions

For the individual actions, following main outcomes and conclusions for 2023 were presented:

Action 1: Improve market access for consumers to value their flexibility. The activities for the year 2023 confirm that consumer-centricity is an emerging topic and closely linked with both the evolutions on digitalization and consumer awareness strategies. The WG Regulation has prepared a survey that will be launched in Q2 2024. The survey will focus on the synergies between the role of digitalisation and market design to improve consumer awareness and participation to energy and flexibility markets. Collaboration with the WG CCE will be explored.

Action 2: Peer-to-peer and energy sharing. During the year 2023, the work of action 2 has continued, the previous activity that focused on the role of energy communities to support services for the grid. The activity in 2023 has expanded the research, addressing the option of peer-to-peer and energy sharing as market models to operationally support the potential role of collective flexibility. The action identified more than 20 different barriers, underlining the regulatory challenges to tackle in this field.

Action 3: Energy and flexibility market coordination and integration. Action 3 organized a joint workshop with the OneNet project to discuss barriers for energy market coordination and integration. The workshop focused on 1) analyzing which barriers had to be prioritized to solve and 2) for which barriers most innovation was still needed, coming from ongoing and new research activities.

Action 4: Support the potential synergies coming from increased sector coupling/sector integration/system integration. One overarching insight from the action was the importance of a systemic and integrated view that goes beyond analysis of individual energy carriers. Action 4 is working on organising a session on barriers and a session on best practices. In 2024, more detailed discussions on recommendations will be organized during Q2 2024. Action 4 also organized a workshop, jointly with BM WG to leverage on synergies between regulation and business models in the field of sector integration and business model innovation.

Action 5: Support the system operators to prepare the grid for 2030: Action 5 is a new action started in 2023. The action will align is activities with the recently proposed Grid Action Plan. In 2023, a first scoping workshop has been organized, in coordination with ISGAN, to further prioritize the topics where most innovation is needed to support system operators both in the field of network planning and network operation.

Action 6: Data spaces: Action 6 is a new action started in 2023. A first scoping exercise has been done, jointly with DM WG and BM WG to determine priorities for BRIDGE in the field of Data spaces. For the WG Regulation, roles and responsibilities was considered a main topic of discussion.

A **survey among BRIDGE participants** confirmed the relevancy of the ongoing activities, in particular regulatory topics related to Energy Market Design, Flexibility, Active System Management, Energy Communities and Data were highlighted as important topics to further deepen and expand in 2024/2025.

Possible new topics in the field of the WG Regulation as proposed by member projects are: E-mobility (in particular all Vehicle-to-X applications), Artificial Intelligence and Cybersecurity.

The discussion between projects during the GA underlined the **importance of knowledge sharing**, both via dedicated **webinars and online workshops** but also via the **participation to physical meetings**. In particular the need for physical interaction was supported as this would increase the options for informal networking and strengthening the EU-ecosystem of collaborative research.

Suggestions were made to **further optimize the operation functioning** of the WG, amongst others by increasing the time between consecutive meetings, clustering some of the meetings, organize regular overview meetings of the ongoing WG activities, providing a regular internal 'operational' newsletter about the WG activities, supporting new projects with a sort of '**project onboarding**' to be able to quickly catch up with the BRIDGE activities.

Project representatives underline the importance of making the link with ongoing policy, by having 1) regular policy updates in the WG Meetings/BRIDGE GA and 2) by aiming to provide input to ongoing policy discussions via the different actions.

Next steps

1) The **annual activity report** for WG Regulation will be prepared and a draft will be submitted to the EC for validation by **end of May 2024;**
2) The **work plan for 2024** will be prepared and submitted for validation by **end of June 2024:**
   a. The 6 actions of the WG Regulation will continue in 2024.

b. The scope of the actions will be updated to include possible new topics and to align the actions maximally with ongoing policy initiatives.

3) The **Knowledge Sharing** for the WG Regulation will be relaunched and start in **Q2 2024.** The projects will be contacted in **May 2024** to agree on a schedule (projects already on the list of interested speakers). In the course of **September 2024**, a new survey will be launched to collect interest for the next knowledge sharing sessions.

4) The WG Regulation will further leverage on **synergies with ETIP SNET/ISGAN**. During **Q3 2024**, a dedicated meeting between BRIDGE, ETIP SNET and ISGAN to be organized to discuss respective work plans and possible common fields of interest.

5) The WG Regulation will further leverage on **synergies with other BRIDGE WGs**. A meeting between all BRIDGE chairs will be organized in **Q2 2024** to agree on possible synergies and joint activities.

6) A survey among WG Regulation members will be launched in **June 2024:** a) to collect/confirm interest in participating to the actions of the work plan; b) to collect interest from projects to co-lead one of the activities; c) to collect possible topics of interest for the projects that are not yet part of the actual work plan.

Business Models

The WG on Business models focuses on various business-related aspects that are relevant for the BRIDGE projects in the smart gird sector, structuring its activities around the business models tools and methods, the identification of best practices and the provision of standardized processes. In 2023, the WG contributed to this overall objective via 3 different tasks of which the main achievements were presented during the BRIDGE General Assembly.

The 3 main tasks of the WG Business models are the following:

- **Task1:** Investigate the tools to capture business ideas and build BM
- **Task2:** Quantification methods for BM benefits of services and solution under various scenarios
- **Task 3:** Investigate the types and characters of the data value chains in BMs of BRIDGE projects

Background

Task 1: Task 1 main activities included investigating tools for capturing ideas and building business models. The goal was to standardize the process for tool selection based on their features, with a final deliverable being a comprehensive guide comprising business model templates, best practices, and testimonials from BRIDGE-related projects. The intended readership was outlined to be individuals new to BRIDGE and/or business model development, aiming to aid newcomers and assist Work Package (WP) leads in onboarding new members.

To this end workshops results, that were conducted in recent months, were presented as they identified emerging needs and laid out ideas for the upcoming year. These needs included support for newly started, mid-project, and finished projects, along with plans to arrange three workshop sessions for monthly meetings to facilitate knowledge sharing and feedback. Additionally, improvements to the existing guide, termed the "cookbook," were suggested.

During discussions, several needs were highlighted, such as considering the Technology Readiness Level (TRL) of results and establishing a repository of business models for the next year. It was suggested to categorize projects to address concerns regarding confidentiality and financial aspects.

Task 2: Task 2's objectives were presented, aiming to develop a standardized methodology for the quantitative analysis of business models complementing the activities of the previous task. Again, the overarching goal is focused on determining a standardized process for using quantification methods along with existing tools that would allow projects to evaluate appropriately their business models. The deliverables include a guide in the format of a "White Paper" proposing the standardized quantification methodology and testimonials from BRIDGE-related projects.

Task 3: Task 3 is aiming to bridge business model thinking with data analysis that now is non existing although that data is of great business value. Several questions were explored, including lessons learned from business model design and practical guidelines for a more data-driven approach. Key findings from Task 3's activities were discussed, emphasizing the importance of understanding data at its broadest sense and the utilization of tools like the Business Model Canvas and use cases. For the time being, a mapping has been made for the different data spaces and the existing tools.

It is recommended for the next year that a standardized approach is provided in steps that the projects can follow and unlock/explore the data spaces connection with the business models.

Conclusions

The session concluded with a reflection on lessons learned in 2023 and future steps. It was noted that projects require support throughout different stages, standardized approaches for quantifying business plans, and better interaction between business model design and Common Energy Data Spaces. The tasks will remain the same for next year making a deeper dive into their objectives and expand as agreed.

Next steps

Next steps for each task were discussed, including updates to Task 1's activities, knowledge sharing for Task 2, and visualizing a standardized process for Task 3. Suggestions from surveys for the next year's activities were reviewed, and objectives for 2024 were outlined, focusing on providing more content and support, engaging projects, standardizing processes, and preparing a unified cookbook throughout all three tasks. It was also suggested that work should focus on the new theme of market uptake, including through the creation of a new sub-task related to this topic. This will involve the identification of exploitable results that have been, or will soon be, used in the marketplace during the course of the project. In addition, the creation of a repository to showcase the positive results of BRIDGE projects can serve as inspiration for new initiatives and increase visibility, thus encouraging wider uptake.

In the months following the General Assembly, the Working Group will address this focus in its high-level planning of activities and consider renaming the Group to 'Business Models and Market Uptake' to better reflect its new purpose.

The annual activity report will be shared within two months after the GenA and will include the reporting of all task activities in a unified way. Complementary, Task 2 will provide a white paper on BM quantification.

Finally, forecasts for the next steps for each task were discussed, including maximizing participation efficiency for Task 1, enhancing knowledge sharing for Task 2, and updating visuals for Task 3. Suggestions from surveys for the next year's activities were reviewed, focusing on stimulating discussions, connecting innovations to markets, and developing processes for understanding gaps and sharing best practices. Additionally, objectives for 2024 were outlined, emphasizing the importance of maintaining current tasks, engaging projects, standardizing processes, and preparing a unified cookbook.

In the light of this, the WG on BM will seek for more collaborations through dedicated meetings and webinars within other WGs of BRIDGE but also other initiatives such as ETIP SNET WG5 and Utility Business Model (UBM) Working Group.

Data Management

Background

The Working Group on Data Management aims to cover a wide range of aspects ranging from the technical means for exchanging and processing of data between stakeholders to the definition of rules for secure exchange and management of data.
For the 2023-2024 period, the Actions of the Data Management WG have been active on the following areas:
- **Communication infrastructure,** embracing the technical and non-technical aspects of the communication infrastructure needed to exchange data and the related requirements;
- **Cybersecurity and data privacy,** entailing data integrity, customer privacy and protection;
- **Data handling,** including the framework for data exchange and related roles and responsibilities, together with the technical issues supporting the exchange of data in a secure and interoperable manner, and the data analytics techniques for data processing.

The areas are actively pursued through the following five Actions:

- **Action #1 "Use-Case Repository":** Provide an overall view of the simplified and homogenized projects use-cases in a simple format, thus facilitating the reuse of existing use-cases solutions from past and on-going projects through cross-projects analysis;
- **Action #2 "Data Exchange reference Architecture":** Contribute to the discussion and practical steps towards truly interoperable and business process agnostic data exchange arrangements on European scale;
- **Action #3 "Reference framework":** Develop a methodology and reference framework to enable the interoperability within flexibility-based use-cases but also beyond (e.g., P2P energy trading, energy monitoring);
- **Action #4 "BRIDGE Standards User Group" (BSUG):** Gather and diffuse collective knowledge, at system level, including outcomes such as a standard practice, and feedback from the scale-up and roll-out of finished projects;
- **Action #5 "Interoperability of home appliances":** Characterize and compare the solutions used by BRIDGE projects to achieve home appliances interoperability. Investigates the functional commonalities of home appliances among BRIDGE projects identifying takeaways from projects and existing standards.

Conclusions

In 2023-2024, the Data Management WG pursued the afore mentioned five on-going Actions. The following results were achieved:

Action #1 "Use-case Repository": An internal testing of a preliminary version of the repository has been successfully conducted by ETRA, providing crucial feedback and insights necessary for further improvements. The integration of the use-case repository into the EIRIE Platform and first validation processes have started. This process included the creation of a shortlist of volunteers for use-case validation and implementation of preliminary feedback obtained from the validation team. Work has started to open the repository to Bridge participants, inviting a second validation. The WG will be engaging with JRC, who will provide additional technical IT support for the repository. To ensure order, different roles and privileges to access the repository have been established.

Action #2 "Data Exchange reference Architecture" (DERA): The DERA has been updated to the version 3.1. There will be no visual changes from DERA 3.0 to DERA 3.1. However, more details have been added to the description of DERA in compliance with the European Self-Assessment Checklist for Survey Managers (DESAP) following feedback received from various projects. The visual instantiation of DERA has been successfully achieved in 10 projects. Considerations for further updates to the Harmonised Electricity Market Role Model have been discussed. Additionally, there have been efforts to update DERA recommendations based on projects elicit responses to survey. Interestingly, between 78-93% of the projects have already started to implement the recommendations provided, either fully or partly. Lastly, the WG is designing and developing the BRIDGE federated catalogue. This initiative is aimed at becoming a central reference tool towards the establishment of data, services, and applications' interoperability. This ties into the commitment to promoting seamless and efficient cooperation across all platforms and projects.

Action #3 "Reference framework": During the 2023-2024 period, three main activities where performed. Initially, a survey was conducted, to identify expectations from the BRIDGE projects and determine areas of improvement. The second activity involved the launch of a work stream to define an updated Generic Actor List. As of now 16 contributors have been successfully identified. The third activity revolved around the development of comprehensive guidelines for the implementation of settlements. Spreading over five crucial areas - Metering and Measurement, Validation and Verification, Calculation of Payments, Invoicing and Payment Processing, as well as Reporting and Documentation - these guidelines clarify the settlement process, improving both efficiency and accuracy of the list.

Action #4 "BRIDGE Standards User Group" (BSUG): In 2023-2024, 19 projects contributed to the creation of a repository of code components. A total of 13 webinars were released to present relevant standards. The WG, also collaborated with distinguished initiatives including CEN-CENELEC-ETSI CG-SG and ENTSO-E CIM Expert Group. This collaboration opened doors to an extensive range of experiences, practices, and strategies that significantly enrich the WG outcomes, especially for the review of documents.

Action #5 "Interoperability of home appliances": During the 2023-2024 period, a comprehensive survey involving 23 BRIDGE projects was conducted to better understand each project's unique context and dependencies affecting the interoperability of home appliances. Subsequently, a set of projects' products designed to augment the

interoperability of home appliances was identified. In line with this endeavour, the WG provided extended support to the JRC Code of Conduct on Interoperability of energy smart appliances. The support to this project culminated in the launch of the initiative Hannover Fair. Additionally, the WG identified applicable smart appliances that could be supported by the EPREL database. This was aimed at leveraging existing resources for maximized efficiency and impact. Finally, the identified appliances were integrated in the DERA and Framework context.

Next steps

During the upcoming 2024-2025 period, the WG focus will be on the implementation and provision of practical tools and content that will be instrumental in supporting ongoing and future projects. In an effort to enrich collaboration and effective knowledge share, the WG members are committed to disseminate information through various channels. This will be achieved through the Use-Case Repository, webinars, and promotion of the standardisation processes. Additionally, the need for improving the onboarding process for new projects was highlighted. This will guarantee a smoother transition and early integration of new projects into Bridge's development cycle.

For the working year 2024-2025, the Data Management WG will focus on the fulfilment of these action points:

- Pursue the five on-going Actions;
- **Strengthening the WG connection with projects,** through a host of initiatives such as enhancing the onboarding process, launching a dedicated landing page gathering useful documents for new projects, and fostering status sharing;
- **Release** and **populate** of the **Use-Case Repository**;
- Supporting the **implementation of DERA** through the development of practical tools. This includes the creation and use of ontologies, methodologies, and best practices that will lead the way towards efficient implementation;
- **Enhance the Reference Framework**, with a concentrated effort on the identification of relevant protocols and standards, including the update of the Generic Actor List;
- **BRIDGE Standards User Group,** to explore the cybersecurity standards landscape and establish connections with the Alliance for Internet of Things Innovation (AIOTI);
- Practically **support the interoperability of home appliances**, including investigation of standards and devices;
- Launch a new **action on Artificial Intelligence** and shape its objectives and scope**.**

The following workplan has been defined for 2024-2025. The new Action on Artificial Intelligence has not been added to the workplan yet, as scope and objective were not determined.

2023-2024 Reports finalisation	
Take into account comments from DMWG participants	May 2024
Action #1 UC repository – 2024-2025	
Finalize validation of the Use-Case Repository (small group of volunteers)	June 2024
Define the procedure for UCs validation	May-July 2024
Open the UC repository and collect UCs from projects (with validation team)	Starting from July 2024
Rotation of the Validation Team members	January 2025
Action #2 EU data exchange reference architecture – 2024-2025	
Release the interface of the *Federated Service Catalogue* tool	December 2024
Work on DERA v3.2 with focus on SGAM compliance, business aspects and synergies with other vertical data spaces	February 2025
Implement and deploy DERA based on concrete use-cases	February 2025
Make sure that recommendations are still relevant and in-line with DERA	February 2025
Elaborate further data role model, incl. data space specific roles	February 2025
Action #3 Reference framework – 2024-2025	

Further improve the Reference Frame and its GBPs	September 2024
Define an updated Generic Actor List	December 2024
Conduct a survey on used standards and protocols	February 2025
Follow-up on the application of the settlement guidelines to projects	January 2025
Action #4 Bridge Standards User group – 2024-2025	
Host regular BSUG meetings helping to gather standards usage by BRIDGE projects	Every month
Publish webinars about standards for BRIDGE projects	*Continuous*
Set-up a repository & process for code components to be reused by projects	December 2024
Prepare a landscape about cybersecurity-related standards	December 2024
Reinforce coordination internally and with external initiatives (incl. setting up a link with AIOTI)	*Continuous*
Keep the active liaisons with CEN/CLC CG-SG and ENTSO-E CIM EG	*Continuous*
Action #5 Interoperability of home appliances – 2024-2025	
Provide results/contribution to JRC and DG ENER	*Continuous*
Identify "takeaways" from projects and make them available to all	February 2025
Investigate existing standards (features, overlaps, …)	February 2025
Devices perspective: investigate devices used in projects and support identification of suitable device for projects – check the EPREL options	February 2025
Investigate the common sharing options to maximize impact	May 2024 October 2024 January 2025 March 2025
New Action on Artificial Intelligence	
Host an interactive meeting to identify relevant activities related to AI	May-June 2024
Run the identified activities and prepare a report	February 2025
DMWG connection to projects	
Prepare materials for projects' on-boarding (link to relevant documents, results, tools, …)	October 2024
Prepare a document describing the expected contributions from BRIDGE projects to the Actions during the lifetime of the project	October 2024
Implement a landing page (or equivalent) to depict the "BRIDGE journey" (on-boarding + contributions during the lifetime + …)	February 2025
Miscellaneous	
Kick-off meeting to present the workplan	June 2023
Update participants list of each Action	June 2023
WG meeting: mid-term (in Brussels)	October 2023
WG meeting: conclusions (online)	January 2024

Annex

Agenda

Tuesday 9th of April - Day 1

Item	Time	Session
	14:00	**Start**
#1	14:00	**Welcome and introduction:** • Vincent Berrutto, Head of Unit - Digitalisation, Competitiveness, Research and Innovation, Directorate-General for Energy, EC • Enrico Gaspari, Senior Manager in PwC
#2	14:10	**Keynote speech:** Vincent Berrutto, Head of Unit - Digitalisation, Competitiveness, Research and Innovation, Directorate-General for Energy, EC
#3	14:20	**Policy updates session:** DG ENER providing updates on: (1) EU Action plan for grids by Ricardo Renedo Williams; (2) Network code on demand response by Adriana Guth; (3) Net Zero Industry Act by Pablo Riesgo Abeledo
#4	14:50	**Plenary Session: BRIDGE initiative** Achievements of the 4 WGs in 2023-2024 – Andrej Gubina, Helena Gerard, Michael Brenner-Fliesser, Olivier Genest (10 min per WG + 20 minutes Q&A)
	15:50	**Networking Coffee & new BRIDGE projects showcasing**
#5	16:30	**Showcase of 6 BRIDGE completed projects** *(Platone; OneNet; Trinity; X-Flex; EUniversal; ebalance-plus)* Including benefits deriving from the participation in the BRIDGE initiative and related lessons learned
#6	17:00	**BRIDGE challenge interactive session** • *Given your experience in BRIDGE, what would you wish to see for 2024?* • *How could BRIDGE best contribute to support the latest policy developments in energy?* • *Which BRIDGE best practices should be replicated and maintained in the future?*
#7	17:30	**Spotlight session on other initiatives:** • ETIP SNET by Norela Constantinescu, Vice-chair of ETIP SNET • ISGAN by Mark Stefan, Senior research engineer, AIT Austrian Institute of Technology • European Commission international engagements by Peter Horvath, DG ENER
	18:00	**Group photo**
	18:10	**Networking Aperitivo**

Wednesday 10th of April - Day 2

Item	Time	Session	
	9:00	**Networking Coffee**	
#1	9:30	**Welcome and wrap-up from the previous day:** • Fabio D'Aversa, Senior Advisor in PwC • George Paunescu, Policy officer in DG ENER	
#2	9:35	**Policy updates session:** • DG CNECT providing updates on (1) Data Act; (2) AI Innovation package • DG ENER providing updates on SET Plan by Anna Sobczak	
#3	10:15	**Presentation of the Use Case repository** by Ugo Stecchi, Project Manager in GrupoETRA	
	10:30	**Break**	
#4	10:40	**Parallel Session 1** **CONSUMER & CITIZEN ENGAGEMENT WG**	**Parallel Session 2** **DATA MANAGEMENT WG**
	12:30	**Lunch**	
#5	13:40	**Parallel Session 3** **BUSINESS MODEL WG**	**Parallel Session 4** **REGULATION WG**
	15:40	**Networking Coffee & new BRIDGE projects showcasing**	
#6	15:55	**Plenary: outcomes of the discussion of the breakout rooms** (15 minutes per WG) Drafting of conclusions from the moderators of the breakout rooms by Andrej Gubina, Helena Gerard, Michael Brenner-Fliesser, Olivier Genest	
#7	16:55	**Commission feedback on the outcomes of the breakout sessions** Mark Van Stiphout, Deputy Head of Unit, DG ENER Unit B.5	
#8	17:15	**Concluding remarks and next steps. BRIDGE going forward with high ambition:** • Fabio D'Aversa and Enrico Gaspari, PwC, presentation of the BRIDGE charter and wrap-up (5 min) • Andrej Gubina, Helena Gerard, Michael Brenner-Fliesser, Olivier Genest, wrap up by BRIDGE leaders (5 min) • Mark Van Stiphout, Depurty Head of Unit B.5, DG ENER concluding remarks (5 min)	
	17:30	**End of the event**	

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