BRIDGE

DATA MANAGEMENT WORKING GROUP

May 2021

2021-2022 WORKPLAN

WORK GROUP INFORMATION

Bridge WG Chairmanship

- *Olivier Genest, Trialog – WG Chair and Leader of "Interoperability of flexibility assets" topic*
- *Kalle Kukk, Elering – Leader of "EU data exchange reference architecture" topic*
- *Lola Alacreu-Garcia – Leader of "BRIDGE repository" topic*

Support from BRIDGE secretariat

- Ioannis Vlachos – ICCS-NTUA – BRIDGE Data Management WG - datamanagement@h2020-bridge.eu

European Commission

- *Directorate-General for Energy, Unit B5 "Innovation, research, digitalisation, competitiveness" – European Commission*
- *Directorate-General for Communication Networks, Content and Technology, Unit E4 "Internet of things" – European Commission*
- *CINEA, European Climate, Infrastructure and Environment Executive Agency – European Commission*

INDEX

1.1 Introduction 4
1.2 Key objectives and actions 4
1.3 Extension and enhancement of the BRIDGE repository 4
1.3.1 Description and objectives 4
1.3.2 Workplan 5
1.3.3 Link with other topics 5
1.4 Contribution from BRIDGE projects to standardisation 5
1.4.1 Description and objectives 5
1.4.2 Workplan 5
1.4.3 Link with other topics 5
1.5 Interoperability of flexibility assets 6
1.5.1 Description and objectives 6
1.5.2 Workplan 6
1.5.3 Link with other topics 6
1.6 EU data exchange reference architecture 6
1.6.1 Description and objectives 6
1.6.2 Workplan 7
1.6.3 Link with other topics 7
1.7 Outcomes 8
1.8 Organisation 8
1.9 Planning 9

1.1 Introduction

The Data Management Working Group (WG) aims to cover a wide range of aspects ranging from the technical means for exchanging and processing data between interested stakeholders to the definition of rules for exchange, including security issues and responsibility distribution in data handling. Accordingly, the WG has identified 3 areas of collaboration around which mutual exchange of views and discussions have been set:

- **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.

1.2 Key objectives and actions

Based on the conclusions of 2021 BRIDGE General Assembly, in particular parallel sessions 2.1 and 2.2 related to data management, the WG is wiling to address 4 topics in 2021:

- Extension and enhacement of the BRIDGE repository *(continuation and extension)*
- Contribution from BRIDGE projects to standardisation *(new)*
- Interoperability of flexibility assets *(continuation)*
- EU data exchange reference architecture *(continuation)*

These 4 topics are detailed below.

1.3 Extension and enhancement of the BRIDGE repository

1.3.1 Description and objectives

The objectives of the BRIDGE repository are:

- To simplify and homogenise the definition of use cases for users with different background;
- To provide an overall view of all the projects Use cases in a simple format;
- To provide data set with detailed information for cross-project analysis;
- To identify similarities between projects;
- To reuse existing use-cases and solutions from past/on-going projects.

The BRIDGE repository should host:

- Use-cases description, based on IEC 62559 (based on libraries, roles model and/or frameworks to harmonize the description of the use-cases);
- Role models (in cooperation with Regulation WG, including other energy vectors such as heat, gas, ...);
- Description of used solutions/standards:
    - Standards usage (where, what for, how it went);
    - Gaps (i.e., missing solutions/standards or missing features);
    - Extensions (incl. CIM profiles, ...)

The BRIDGE repository will be hosted within the EIRIE knowledge sharing platform (hosted by the JRC) and will host BRIDGE content together with other content (ETIP SNET, ...). It should be dynamic and interactive, and ideally support automated post-processing of the provided data to update the outputs.

The BRIDGE repository will be managed by SPRING (the tender providing among other secretariat of BRIDGE) and hosted by the JRC. It will be open to external stakeholder.

1.3.2 Workplan

1. Define the requirements: content, inputs/outputs, links between data, processing, etc.
2. Set-up the BRIDGE repository in the EIRIE knowledge sharing platform
3. Collect content from BRIDGE projects

1.3.3 Link with other topics

- The BRIDGE repository will host data about the use of standards by BRIDGE projects (incl. extensions or CIM profiles) and its content will be used to contribute to standardisation.
- The BRIDGE repository will host data about the projects and their use-cases that will feed the "Interoperability of flexibility assets" methodology, and will host its results (e.g. catalogue of standards, etc.).

1.4 Contribution from BRIDGE projects to standardisation

1.4.1 Description and objectives

BRIDGE builds a collective knowledge, at system level, including outcomes such as a catalogue of standards (existing solutions, identified gaps, ...), practices related to standards (feedback, recommendations, proposed extensions, ...), and possibly the feedback from the scale-up and roll-out following finished projects. This collective knowledge should contribute to European and international standardisation.

BRIDGE will contribute to standardisation:

- Based on BRIDGE collective knowledge (see above);
- Contributions will be pushed:
  - (1) through projects' partners involved in standardization;
  - (2) through a user group with official liaison with the standardization committees;
- Note: Some SDOs may also provide draft standards to R&I projects for free – the purpose for SDOs is to collect implementation feedback during the early phases of the standards development process.

To achieve (2), a user-group will be created:

- Scope to be defined: CIM at minimum, possibly "Smart Energy Standards" in general
- Its purpose is to train users, share knowledge and provide support on the use of specific standards (e.g., CIM), and collect feedback and proposed modifications
- It will be hosted within BRIDGE and might be migrated outside BRIDGE in a 2nd step

1.4.2 Workplan

1. Identify on which topics and to which standardisation bodies BRIDGE will contribute
2. Set-up a process to identify relevant contributions from projects and push them to the selected SDOs
   a. Based on partners involved in standardisation committees
   b. Based on a user group with official liaison
3. Set-up and run a BRIDGE user group to support item 2.b

1.4.3 Link with other topics

The results from all the Data Management WG topics will be used to feed the contribution to standardisation.

1.5 Interoperability of flexibility assets

1.5.1 Description and objectives

A methodology and reference framework have been defined in 2020 to enable the interoperability of flexibility[1] assets by generating content such as a catalogue of standards (existing solutions, identified gaps, ...) and practices related to standards (feedback, recommendations, proposed extensions, ...).

This methodology should now be executed to a large number of projects. Its reference framework should also be enhanced based on the use-cases from additional projects.

1.5.2 Workplan

1. Enhance the reference framework based on use-cases from additional projects and discussions with Regulation WG
2. Apply the methodology to additional projects and generate updated outcomes (catalogue of standards, ...)
3. (Option) Implement this methodology into the BRIDGE repository

1.5.3 Link with other topics

- The "interoperability of flexibility assets" methodology will use the data about the BRIDGE projects' use-cases from the BRIDGE repository and will provide results to be hosted in the BRIDGE repository.
- This work on interoperability also feeds the EU data exchange architecture, by providing requirements based on use-cases and information about the solutions and standards used by the projects. Also, the EU data exchange architecture will be used as a baseline to structure the outcomes of the "Interoperability of flexibility assets" methodology from architecture perspective.

1.6 EU data exchange reference architecture

1.6.1 Description and objectives

A EU data exchange reference architecture has been defined in 2020.

Some possible improvements have been identified:

- Understand in more detail what is sector-specific vs. cross-sector;
- Understand and describe the correspondence between SGAM and other reference architectures (like IoT RA);
- Make sure that besides platform-based approach other communication options and open standards are addressed.
- Intensify communication with other data initiatives, i.e. GAIA-X, IDSA, etc.
- Connect to the data strategy and the data space concept (focusing on the projects that will design the energy data space and interact to fine-tune the pan-EU reference architecture for data exchange

To achieve cross-sector interoperability, the focus should be put on:

- Identify the common building blocks that we can promote to standardisation – starting with vocabulary;

[1] In this study, "flexibility" means the ability to change energy consumption or generation in reaction to an external trigger (signal, measure, market, …), whatever the flexibility source, i.e. it covers both demand-side and generation-side flexibility, including vehicle-to-grid, storage, …

- Near-real-time and beyond the 'main meter' data availability (like data from EV charging point, also EVs themselves …);
- Data ownership and data access;
- Cross-sector communication standards and APIs (e.g., TSO/DSO2EV vs EV2Customer).

Links should be set with other BRIDGE activities and external parties:

- Identify how to reach out to gas, heating, cooling research groups and launch the work. A common role model has been mentioned but could also concern definition of common data business processes, common data exchange functionalities, common canonical information model, common data semantics/profiles;
- Similar should concern non-energy sectors – buildings, health, transport;
- Identify the needs of islands' projects.

1.6.2 Workplan

1. Improve and adapt cross-sector element for European data exchange reference architecture for practical implementation – agnostic to specific technologies and business processes, link to other reference architectures and standards;
2. By means of MVP (minimum viable product) implement (cross-sector) reference architecture based on the recommendations given in the report. Between interested BRIDGE projects – this assumes agreement from at least 2-3 projects willing to participate in such MVP. Best candidates for MVP would be projects which focus on data exchange anyway, specifically across sectors and country borders;

1.6.3 Link with other topics

- The "EU data exchange architecture" topic will cooperate with the BRIDGE user group to ensure an alignment with the standardisation activities.
- This topic will also benefit from the results of the "Interoperability of flexibility assets" methodology and the content of the BRIDGE repository, in particular on the standards (and profiles) used to ensure interoperability.

1.7 Outcomes

The expected outcomes are:

Extension and enhancement of the BRIDGE repository

- Specification of the BRIDGE repository requirements *(report)*
- BRIDGE repository containing data from BRIDGE projects *(demo)*

Contribution from BRIDGE projects to standardisation

- Description of BRIDGE contribution to standardisation: topics, process, which standardisation bodies, expected impact *(report)*
- User group set-up *(demo)*

Interoperability of flexibility assets

- Update of the Reference framework *(report)*
- Update of the outcomes: catalogue of standards, identified gaps, proposed extensions, … (*report)*

EU data exchange reference architecture

- Update of the EU data exchange reference architecture *(report)*
- MVP implementation by 2-3 BRIDGE projects *(demo)*

1.8 Organisation

- Topic “Extension and enhancement of the BRIDGE repository” will be led by Lola Alacreu Garcia
- Topic “Contribution from BRIDGE projects to standardisation” will be led by Eric Lambert
- Topic “Interoperability of flexibility assets” will be led by Olivier Genest
- Topic “EU data exchange reference architecture” will be led by Kalle Kukk

Each of the topic leaders will constitute a group of “active contributors” and organize and share the work within the group.

Regular (monthly?) follow-up meetings will be organised with the Chair, Leaders and Support team to track progress and agree on next steps.

1.9 Planning

TASK ID	TASK	START	END	RESPONSIBLE
	Extension and enhancement of the BRIDGE repository			
1.1	***Define the requirements: content, inputs/outputs, … (doc)***	01/05/21	30/06/21	*Lola + subgroup*
1.2	***Set-up a BRIDGE repository***	01/07/21	30/09/21	*Lola + subgroup + EIRIE*
1.3	***Collect content from BRIDGE projects***	01/10/21	31/12/21	*All BRIDGE projects*
1.4	***Write (short) report on what has been done/demonstrated***	01/01/22	31/01/22	*Lola + subgroup*
	Contribution from BRIDGE projects to standardisation			
2.1	***Define the objectives of BRIDGE contribution to standardisation: which topics, which SDOs, … (doc)***	01/05/21	30/06/21	*TBD + subgroup*
2.2	***Define the process to coordinate and monitor BRIDGE contributions to SDOs, including BRIDGE User group Terms of Reference (doc)***	01/07/21	15/09/21	*TBD + subgroup*
2.3	***BRIDGE User group 1st meeting***	October 21		*All volunteer BRIDGE projects / partners*
2.4	***Contribution to SDOs***	From 15/09/21		*All volunteer BRIDGE projects / partners*
2.5	***Report on BRIDGE contribution to standardisation (doc)***	01/01/22	31/01/22	*TBD + subgroup*
	Interoperability of flexibility assets			
3.1	***Consultation of BRIDGE projects and Regulation WG to improve the Reference Framework and its Generic Business Processes***	01/05/21	30/06/21	*All BRIDGE projects*
3.2	***Collect data from 5-10 projects, based on the existing template***	01/07/21	30/09/21	*5-10 volunteer BRIDGE projects*
3.3	***Analyse data and generate new outcomes***	01/10/21	30/11/21	*Olivier + subgroup*
3.4	***Write report including updated framework and new results (doc)***	01/12/21	31/01/22	*Olivier + subgroup*
	EU data exchange architecture			
4.1	***Update of the EU data exchange reference architecture (doc)***	01/05/21	30/09/21	*Kalle + subgroup*
4.2	***Development of the MVP by 2-3 projects***	01/07/21	30/11/21	*2-3 volunteer BRIDGE projects*
4.3	***Demonstration of the MVP***	01/12/21	TBD	*2-3 volunteer BRIDGE projects*
4.4	***Write report including updated reference architecture + results of the MVP demonstration (doc)***	01/01/22	31/01/22	*Kalle + subgroup*

(doc) means that the outcome will be a document

This workplan will be supported by 3 WG meetings:

MTG ID	TOPIC	APPROX. DATE	DURATION
1	***Kick-off meeting for 2021 workplan*** During this meeting, the 2021 workplan will be presented to the WG members. Questions will be answered and comments taken into account. Then BRIDGE projects will be asked to indicate to which topics they are willing to actively contribute in 2021.	2nd half of May 21	1½ or 2 hours
2	***Mid-term meeting*** Each topic will share its progress, in particular to describe the defined requirements, processes, frameworks, etc. Comments from projects and EC will be collected and taken into account.	1st half of October 21	3 or 4 hours
3	***Conclusion meeting*** Each topic will share its results and preliminary conclusions and recommendations. Based on the discussion with the projects and EC, the final conclusions and recommendations will be agreed	1st half of January 22	3 or 4 hours

bridge