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Big data for buildings

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Building Information aGGregation, harmonization and analytics platform

Project Nº 957047

D8.2 Dissemination and Communication Action Plans and Target KPIs

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Executive Summary

The BIGG project aims at demonstrating the application of big data technologies and data analytic techniques for the complete buildings life-cycle of more than 4000 buildings in 6 large-scale pilot test beds, achieved by: 1) The Open Source BIGG Data Reference Architecture 4 Buildings for collection/funneling, processing and exchanging data from different sources (smart meters, sensors, BMS, existing data sets); 2) An interoperable buildings data specification, BIGG Standard Data Model 4 Buildings, based on the combination of elements from existing frameworks and EC directives, such as SAREF, INSPIRE, BIM, EPCHub that will be enhanced to reach full interoperability of building dates; 3) An extensible, open, cloud-based BIGG Data Analytics Toolbox of service modules for batch and real-time analytics that supports a wide range of services, new business models and support reliable and effective policy-Making. These solutions will be deployed and tested cross pilot and country validation of at least two business scenarios in Spain and Greece.

This deliverable describes the dissemination and communication action plans to identify the project's key outcomes to be communicated and the relevant stakeholders to whom these key messages should be addressed, to encourage them to interface with the project, and to learn and contribute to the obtained results. This to enhance the exploitation and take-up of BIGG results.

Furthermore, an overview is provided of the main tools and channels (website, social media channels, press releases, (scientific) publications, videos, etc.) that will be used to reach these stakeholders, an overview of the timing of public deliverables and milestones that will drive the communication actions and a monitoring strategy with KPIs to follow-up the effectiveness of the actions taken.



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Table of Acronyms and Definitions

ACRONYM	DEFINITION	
Al	Artificial Intelligence	
API	Application Programming Interfaces	
D	Deliverable	
EC	European Commission	
ICT	Information & Communication Tools	
KPI	Key Performance Indicator	
M	Month	
MS	Milestones	
R&I&P	Research, Innovation and Policy	
WP	Work Package	



I. INTRODUCTION

I.1. Purpose and organization of the document

This deliverable describes the communication and dissemination strategy to identify the project's key targets to be communicated (section V), the identification of the relevant stakeholders to whom these key messages should be addressed (section IV), and the main tools and channels that will be used to reach these stakeholders (section VI and VII).

Furthermore, an overview is provided on the branding of the project (section VIII) and the defined KPIs and monitoring strategy to follow-up the project's dissemination and communication actions (section IX).

The main marketing and communications guidelines developed throughout this deliverable were previously identified and defined in *D8.1 - Marketing material and website*. Furthermore, this document will be continuously updated throughout the project and the results from the communication and dissemination activities will be reported in *D8.3 - 1st report on dissemination, communication and clustering activities and results* (M18) and *D8.4 - 2nd report on dissemination, communication and clustering activities and results* (M36) .

I.2. Scope and audience

The communication and dissemination activities of WP8 support the activities of WP7 - Project impact to realize a maximal exploitation and valorisation of the solutions developed within BIGG. This deliverable is thus intended for WP7 partners as well as for the EC project officer in order to follow-up on the project's dissemination and communication activities.



II. OVERALL OBJECTIVES AND KEY CONCEPTS

The BIGG project aims at demonstrating the application of big data technologies and data analytic techniques for the complete buildings life-cycle by realizing:

- An open source BIGG Data Reference Architecture for Buildings for the collection, processing and exchanging of data from different sources (smart meters, sensors, BMS systems, existing datasets, etc.).
- An interoperable buildings data specification, BIGG Standard Data Model for Buildings, based on the combination of elements from existing frameworks and EC directives, such as SAREF, INSPIRE, BIM, EPCHub, etc. that will be enhanced to reach full interoperability of building data.
- An extensible, open, cloud-based BIGG Data Analytics Toolbox of service modules
 for batch and real-time analytics that supports a wide range of services, new business
 models and support reliable and effective policy-making.

These solutions will be demonstrated for 15 different use cases in 6 large-scale pilot testbeds consisting of more than 4000 buildings.

WP8 is responsible for the design and deployment of a comprehensive and well-structured communication and dissemination strategy to ensure a broad promotion of the BIGG concepts, developed solutions and (pilot) results to all relevant stakeholders and support WP7 to maximize the valorization of BIGG's results. The figure below shows WP8's main objectives and envisioned tangible outcomes.

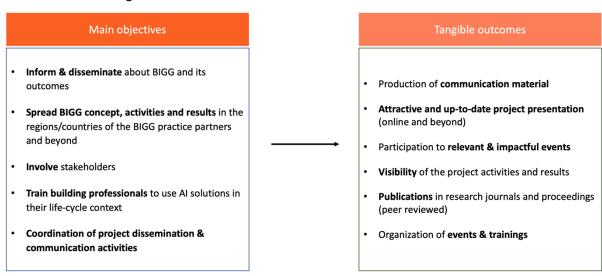


Figure 1 - WP8's main objectives and envisioned outcomes

WP8 will use the phased four-step approach below to define, plan, organize and exploit a rich set of activities and instruments in the most effective way.



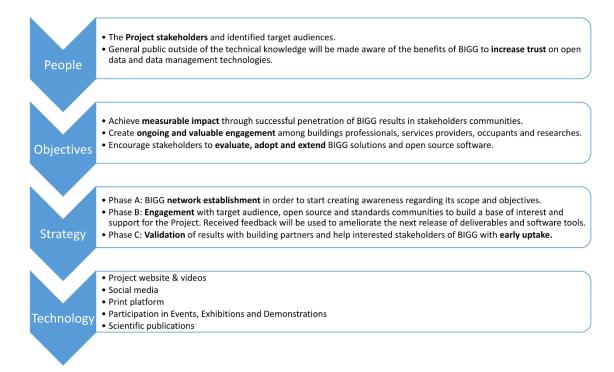


Figure 2 - WP8 four-step approach

II.1. Communication objectives

The communication objectives are threefold:

- 1. Provide the right tools, channels and messages to reach the relevant stakeholders.
- Ensure that relationships with those stakeholders work in both directions: spreading of information and project outcomes from the consortium but also capturing feedback from the audiences to further steer the research and developments.
- 3. Ensure a broad visibility and awareness about the main BIGG project results (reference architecture, AI toolbox, building data model, data harmonization, innovative end user services, pilot results, etc.)

The different communication channels to achieve these objectives are detailed in section VI.

II.2. Dissemination objectives

The dissemination objectives are also threefold:

- Reach, stimulate, and engage a critical mass of relevant stakeholders by large-scale
 dissemination campaigns to ensure that BIGG results are well-known and taken up by
 Big Data/Data Harmonization/AI and buildings communities to set up research trials of
 innovative use cases.
- Foster impactful contributions to relevant Standard Development Organizations (e.g. CEN/CLC/JTC, ISO and their national committees) as appropriate and relevant to planned exploitation plans and the project's outcomes.
- Increase trust of building professionals and related stakeholders on our big data management, data harmonization and AI solutions paving way for European wide acceptance of these technologies and promote the willingness to make use of project's outputs, to ensure innovation capability growth beyond BIGG's end.

These objectives will be realized via different types of dissemination activities:



- **Public dissemination** to all target audiences via the communication channels detailed in section VI.
- Large-scale Dissemination Actions: contributions and interactions with international fora via events, workshops and exhibitions (section VI.6), targeting the different principal stakeholder groups, as outlined in section IV.
- **Journal and Conference Publications:** scientific project results will be published in peer reviewed, highly ranked international scientific journals and conferences (section VI.5).
- Sector community-building activities: The BIGG consortium will actively participate to the strengthening of the digital transformation of the building sector innovation communities, by regularly releasing BIGG prototypes. The project will establish synergies with project clusters in the sector, European Associations and other European initiatives such as projects funded under the same and similar H2020 calls.

The dissemination activities will be closely monitored via a number of KPIs, as outlined in section IX.



III. COMMUNICATION AND DISSEMINATION TIMELINE

To maximize the widespread adoption of the results of the project, BIGG focuses on the specification and implementation of standardized and open solutions:

- An open source Data Reference Architecture
- Open and interoperable buildings data specification
- An extensible, open and cloud-based Data Analytics Toolbox

Consequently, almost all deliverables (20 on a total of 23 deliverables) will be publicly released. The release of a deliverable will be followed by appropriate communication and dissemination actions to inform the intended target audiences.

The table below gives an overview of the BIGG public deliverables with due dates.

Table 1. BIGG public deliverables (sorted by due dates)

Nº	Deliverable title	Due date
D1.1	Collaborative Working Environment and its Maintenance	M2
D1.2	Guidelines and Quality Assurance	М3
D6.1	Detailed description of pilots technical assets: ICT tools and accessibility to data sets	M3
D8.1	Marketing material and website	М3
D8.2	Dissemination and communication actions plans and target KPIs	М3
D1.3	Data and ethics management plan and guidelines	M6
D2.1	Detailed description of Use cases and end-user services	M6
D2.2	Initial technical specifications and preliminary design of BIGG Architecture building blocks and APIs	M12
D7.1	Initial contributions to standardization actions and market analysis	M12
D3.1	Description of the preliminary end-user, communication and security layers	
D4.1	.1 Description of the preliminary harmonization layer	
D5.1	Description of the preliminary AI toolbox	
D6.2	First evaluation of the BIGG pilots results on use cases	
D8.3	1st report on dissemination, communication and clustering activities and results	M18
D7.2	Update of contributions to standardization actions and preliminary Market2Go strategy including BIGG impact	M24
D3.2	Description of the final end-user, communication and security layers	M30
D4.2	Description of the final harmonization layer	
D5.2	Description of the final AI toolbox	
D4.3	Public BIGG Data	M34
D2.3	Final technical specifications and description of the integrated BIGG solution	M36



D6.3	Final evaluation of the BIGG pilots results on use cases	M36
D7.3	Final contributions to standardization actions and final Market2Go strategy including BIGG impact	M36
D8.4	2nd report on dissemination, communication and clustering activities and results	M36

Within BIGG there are also a number of milestones defined, that typically coincide with the release of multiple or major deliverables, see the table below.

Table 2. BIGG Milestones

Nº	Description	Due date	Relevant Deliverables
MS1	Project Kick-off.	M1	Minutes
MS2	Release of the description of BIGG use cases and end-user services definition.	M6	D2.1
MS3	Release of the 1st version of the BIGG architecture.	M12	D2.2
MS4	Release of the 1st version of BIGG solution individual components.	M15	D3.1, D4.1, D5.1
MS5	Achievement of the end of the 1st round of pilots evaluations.	M18	D6.2
MS6	Initial Go2Market strategy.	M24	D7.2
MS7	Release of the final version of BIGG solution individual components.	M30	D3.2, D4.2, D5.2
MS8	Release of the final version of the integrated BIGG solution.	M36	D2.3
MS9	Achievement of the end of the final round of pilots evaluations.	M36	D6.3
MS10	Final Go2Market strategy.	M36	D7.3

When a milestone is achieved, communication will be further intensified, especially for milestones MS5 (first round of pilot evaluations) and MS8/MS9/MS10 at the end of the project (final version of integrated BIGG solution, final round of pilot evaluations and final Go2Market strategy).



IV. TARGET AUDIENCE AND KEY STAKEHOLDERS

The exploitation and commercialization strategies of BIGG are crucial to achieve a maximal impact for the project and will consider the full spectrum of opportunities involving the widest possible range of stakeholders (academic, building professionals, industrial and regulatory) in the exploitation efforts. The exploitation objectives are fourfold: (i) contribute to infrastructure providers and regulatory bodies assisting them to better operate, safeguard and manage building-related data, (ii) demonstrate the technological and business impact of deployments, (iii) create new, feasible, and applicable business models, and (iv) provide a strategy for design, development, and replication strategies for clinical research operatives and policy makers.

The BIGG business and commercial exploitation strategy is based on 5 pillars:



Figure 3 – BIGG business and commercial exploitation strategy

- Insights. The stakeholder analysis and engagement of stakeholder community will be performed, understanding the actors that may have an impact in the BIGG exploitation success, including: a) Trends, size and growth rates of relevant markets, b) Stakeholders, c) Competitors, other barriers and opportunities, d) Differentiators with competitors, e) Key success factors.
- 2. <u>Opportunities</u>. Market opportunities that could be extracted from the project results will be then identified in order to define which areas of the market could be covered, even during development and evaluation phases.
- 3. Market analysis. PESTEL analysis is used to identify three important target scenarios for the exploitability of results capitalizing on the interdisciplinary approach and consortium composition. The markets for the trial partners are a subset of the generically developed market. This means that the market study will firstly concentrate on identifying the generic market and then in the second phase clearly identify the submarkets for the trial partners.
- 4. <u>Business models</u>. The methodology to identify exploitable results will consider all project activities outputs, including the core concepts definition, business requirements, main technical components and the final evaluation results. The business model prototypes will include the potential customer segments and their challenges, the value proposition offered to them, the customer relationships and delivery channels that can be set-up, the key resources, activities and partners, the cost structure and the potential revenue streams.
- 5. Exploitation plan. Once the exploitation strategy is clearly defined, the consortium will define how to make it a reality by performing a replication analysis. Variables such as scalability, replicability of BIGG trials experiences, cost and usability will be considered so results can be exploitable with a reasonable affordable investment from the

partners. Every business plan needs to contain a precisely targeted and thorough marketing analysis, not only determining the sheer size of the market but also identifying optimal starting points for the most promising exploitation strategies, using the market analysis performed at the beginning of the project as a complement for it.

The main stakeholder groups are those who will use BIGG solutions, as is the case for relevant industrial stakeholders and academic experts, among others. With the purpose of stimulating high quality research in components and technologies related to the solution developed by the project, five principal target audiences have been identified:

- **TA 1- Users**: Building professionals. Mainly building managers and operators, and other technical experts involved in the whole building life-cycle such as designers, builders, energy services and maintenance companies.
 - o In terms of the communication layer, building professionals would like to deal with building data coming from heterogenous data sources and are not able to collect and use it properly, due to the lack of connectors. These connectors can be offered to the building players in the market individually or as part of the complete BIGG platform.
 - Regarding the end user applications, they will also be able to graphically see the improvement of their services due to management/analysis of "more" data than currently through GUIs (Graphical User Interface).
- TA 2 Enablers: Those who bring the regulatory and standardization conditions. Policy makers at all levels: Local and regional authorities organizations (CPMR, Energy Cities) and public building management agencies; national ministries; European Associations (AEEBC, EBC, EuroACE, etc.), standard development organizations and regulators (TNO, ETSI, CEN-CENELEC, etc.) and building data stock managers (EU BSO), project networks (MEDNICE). In addition, energy agencies will be considered in order to help local governments in establishing energy policies.
- **TA3 Suppliers**: Those who bring the technical context to integrate BIGG in the market e.g. utilities, energy retailers, IoT devices manufacturers, cloud providers, systems integrators, etc.
 - With regard to the communication layer, suppliers could improve their market offering if connectors are integrated into their solutions.
 - Furthermore, BIGG will also develop a security layer, where the idea is to be agnostic to the actual data/services provided by the platform. This layer could be reused in any technical platform, which will be an advantage for suppliers.
- **TA4 Researchers**: Big data processing and AI related expertise including AI experts and data scientists both from academic and industry. The project will release the final technical specifications and the description of the integrated solution.
- TA5 Beneficiaries: Building occupants that will profit of the advantages of applied ICT in the building sector to improve its life-cycle and to provide a more optimal use of building resources.
 - o In terms of end user applications, building occupants will understand the advantages of the new services thanks to GUIs, for instance, they will be able to see how energy efficiency is improved while keeping comfort levels. The detailed description of use cases and end-user services will be accessible to non-technical readers.
 - From the point of view of the security layer, services dedicated to beneficiaries will be secured improving trust and ensuring GDPR (General Data Protection Regulation) is respected.



V. CREATION OF CONTENT

Throughout the project, BIGG will produce different results which will have a great positive impact on the target audience groups (users, enablers, suppliers, researchers and beneficiaries). These results will be promoted via the most appropriate communication and dissemination actions to realize maximum impact.

V.1. R&I&P Roadmap

Work packages 2, 3, 4 and 5 will deliver technological results, that will be communicated and disseminated using the tools and channels outlined in Section VI:

WP2 - Technical Framework: Specifications and Integration focuses on the development of the open source BIGG Data Reference Architecture for Buildings. The main expected outcomes are:

- A detailed description of use cases and end-user services which will also be accessible for non-technical readers.
- An overview of the architectural design and APIs of the reference architecture and its implementation.

In **WP3 - End user, communication and security layers** 3 important layers of the BIGG solutions will be realized corresponding to the interaction with external actors, both being data suppliers and services and tools end-users:

- The communication layer will be composed by elements that allow ingest and expose all types of building data. On the one hand, it will provide the connectors and adaptors to allow the bi-directional communication (ingestion and exposure) of the data coming from different repositories and data sinks. On the other hand, it will prepare the data to be ready for its management in other project areas.
- End user applications: the idea is to be able to improve existing building management tools in order to expose how we are capitalizing on big data. Possibly some tools will be able to be exposed as stand-alone GUIs, able to be integrated in any (external to the project) solution.
- Security layer: The goal is to be agnostic to the actual data/services provided by the platform. As such this layer will be able to be reused in any technical platform.

WP4 – **Data Harmonization Layer** focuses on the development of the data harmonization layer of the BIGG solution that will allow the data coming from different sources to be aligned and treated together in an agile and robust way. The main expected outcomes of WP4 are:

- The development of an open and interoperable data specification, the BIGG common and standard building data model combining elements from existing data models, ontologies and EC directives.
- The development of mappings and transformations between the developed Data Model and existing data models and ontologies (INSPIRE, DEEP, SAREF-4Buildings, etc.).

In **WP5 – AI Toolbox** AI/ML-based methods and decision support tools will be researched and realized as service modules with clearly defined APIs to support the 6 defined business cases. These AI tools will be reused as much as possible for different use cases and pilot sites.

A wide range of building modelling methodologies (white-box, black-box, grey-box) and Al techniques (regression, classification, reinforcement learning, model predictive control, etc.) will be investigated and the most appropriate techniques will be selected to realize these business cases.



WP7 – Project Impact is responsible for the effective exploitation and deployment of results into the market via a.o. the characterization of the markets, its stakeholders and needs, assessment of the project's results with the best exploitation potential, the creation of appropriate business models, etc. WP7 will also collaborate with standardization bodies to which BIGG can technically contribute.

There will be a strong interaction between WP7 and WP8, with the communication and dissemination actions from WP8 aiming to achieve the widest possible adoption of the BIGG solutions in the market. Successful adoptions, contributions to standardization bodies, etc. realized in WP7 will in turn also be communicated as widely as possible through WP8 to further increase the impact of the BIGG project.

V.2. Pilot Monitoring and Evaluation

WP6 – Validation of the BIGG technical framework: Pilots focuses on the coordination of the pilots and on conducting cross-pilot evaluations in order to evaluate the applicability and performance of the developed BIGG platform to support 6 real-world business scenarios. These evaluations will be performed from a technical (data throughput, scalability, real-timeness, data processing capabilities, interoperability with third party platforms, security aspects, etc.), business (TCO & ROI analyses) and legal perspective (impact of data protection legislations, IP aspects, etc.).

Some of the main expected outcomes of the overall pilot evaluations are:

- A common understanding between all pilot projects
- The development of a common structure/methodology/architecture to process information (data) and to interact with different users/beneficiaries/stakeholders to make an impact on sustainability EU targets
- The use of the same tools/software to process data & information from different business cases and countries.

These results will be reported halfway the project at M18 (initial results) and at the end of the project (M36). These are the main milestones of the project and will be followed by large-scale dissemination campaigns.



VI. COMMUNICATION AND DISSEMINATION CHANNELS

VI.1. BIGG website

A **website** about the project has been launched (https://www.bigg-project.eu/), being the main communication tool throughout the project. The website will be composed of different sections, listing the main objectives and expected outcomes, the consortium partners, the announcement of events, conferences and publications. The project website will form the basis for digital communication and dissemination activity and it will contain a database of downloadable materials, as is the case of public deliverables or press releases.

Regarding the KPIs of the website, the frequency of blog posts and short news about topics treated during the project is at least 1 post per month. In addition, the minimal number of returning website visitors per year is 400 and the number of unique visitors per year is 800. All partners will use their communication channels in order to generate traffic to the BIGG website and increase the visibility of the project.

The website is developed within T8.1 and is delivered at M3.



Figure 4 - BIGG website homepage

VI.2. Community and Newsletters

An electronic project newsletter will be released every 6 months, providing updated information and highlights for the stakeholders, including the announcement of conferences, presentations or publications.



VI.3. Social Media

Social media, targeting both professional and public networks, will be used to raise awareness on success stories, common topics of interest, community events and publications. Social media will be implemented twofold, using Twitter as an open channel to the general public but also for active engagement with community members; and LinkedIn as it gives the opportunity of enhancing two-way communication with well-defined professional groups of stakeholders. BIGG will also target mass media, especially to reach the general public for enhancing the trust on BIGG solutions.

A **Twitter** account has been created at M2 (https://twitter.com/BiggProject). It has already been used in order to relay information on the launch of the project, promote interesting events and to "follow" other relevant European projects.



Figure 5 - BIGG Twitter account

A **LinkedIn** group has been created in M2 (https://www.linkedin.com/groups/9021252/) in order to raise awareness about the project together with the Twitter account, publishing relevant information about the realizations of BIGG, as well as the events and publications where the partners take part in.

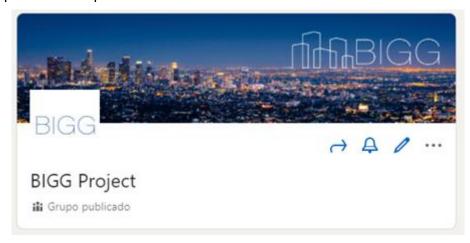


Figure 6 - BIGG LinkedIn Group

VI.4. Press Releases

A minimum of **6 press releases** (two per year) dedicated to industry will be issued in different online and printed magazines, journals and media, but also within the networks of the partners and the BIGG's website. They will be published, translated into local language and distributed among local media.

VI.5. Scientific Publications

The dissemination of the (scientific) project outcomes to a wide range of audiences will be achieved thanks to papers and publications released in both national and international scientific and professional journals and conferences.

Articles will be published regularly in peer-reviewed journals of high standard along with the course of the project. A list of relevant scientific and professional journals and conferences targeted by the consortium has been identified, which will be contacted punctually for the dissemination of the project activities and outcomes.

This list is shared with all BIGG partners and is continuously updated with new publication opportunities and is also used to keep track of BIGG partner contributions.

The table below gives an overview of the collected publication opportunities up to now.

Table 3. Scientific publication opportunities

Journal/ Conference	Description	Date/ Periodicity /Location	Publisher / Organizer
Automation in Construction (https://www.journals.elsevier.com/automation-in-construction)	International journal on aspects related to Information Technologies in Design, Engineering, Construction Technologies, and Maintenance and Management of Constructed Facilities.	Monthly	Elsevier
Journal of Information Technology in Construction (ITCon) (https://www.itcon.org/)	Online open access journal on the use of IT in architecture, civil engineering and facility management.	Yearly	OASPA
Building and Environment (https://www.journals.elsevier.com/building-and-environment)	International journal on aspects related to building science, urban physics, and human interaction with the indoor and outdoor built environment	Monthly	Elsevier
Journal of Building Engineering (https://www.journals.elsevier.com/journal-of-building-engineering)	Interdisciplinary journal on aspects related to the whole life cycle of the built environment; from the design phase through to construction, operation, performance, maintenance and its deterioration.	Monthly	Elsevier
Open Construction & Building Technology Journal (https://openconstructionbuildingtechnologyjournal.com/)	Online open access journal on aspects related to construction and building technology.	Yearly	Bentham Open
ECPPM conference (European Conference on Product and Process Modeling) (http://ecppm.ispras.ru/)	International conference on BIM and ICT applications in the AEC/FM (Architecture, Engineering, Construction and Facilities Management) domains.	Biannual, next edition: 5-7/05/2021	European Association of Product and Process



		- Moscow (Russia)	Modelling (EAPPM)
European Conference on Computing in Construction (EC3) (https://ec-3.org/conference2021/)	International conference on information, communication and technological research, innovation and policy for the construction sector as a whole.	Yearly, next edition: July 19- 28/07/2021 – Rhodes (Greece)	European Council for Computing in Construction
SEB (International Conference on Sustainability in Energy and Buildings) (http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=116236©ownerid=158787)	International conference on energy in buildings, neighbourhoods and cities from a theoretical, practical, implementation adn simulation perspective.	Yearly, next edition: 15- 17/09/2021 – Split (Croatia)	KES International
IEECB&SC conference (International Conference on Improving Energy Efficiency in Commercial Buildings and Smart Communities) (https://e3p.jrc.ec.europa.eu/events/11th-international-conference-improving-energy-efficiency-commercial-buildings-and-smart)	International conference focused on energy efficiency in new and existing non-residential buildings.	Biannual	European Commission
IEEE Communications Magazine (https://www.comsoc.org/publications/magazines/ieee-communications-magazine)	International journal on aspects related to wireless, optical and wired communications.	Monthly	IEEE Comsoc
Journal of Cloud Computing (https://journalofcloudcomputing.springeropen.com/)	Journal on all aspects of Cloud Computing.	Yearly (December)	Springer OPEN
Journal of Network and Computer Applications (https://www.journals.elsevier.com/journal-of-network-and-computer-applications)	Journal on all aspects related to computer networks and applications thereof.	Twice a month (1st and 15th of each month)	Elsevier
Sustainability (https://www.mdpi.com/journal/sustainability)	International open access journal of environmental, cultural, economic, and social sustainability of human beings.	Monthly	MDPI
Sensors (https://www.mdpi.com/journal /sensors)	International open access journal on the science and technology of sensors.	Monthly	MDPI
Energy and Buildings (https://www.journals.elsevier.com/energy-and-buildings)	International journal devoted to investigations of energy use and efficiency in buildings.	Twice a month (1st and 15th of each month)	Elsevier
IEEE Transactions on Smart Grid (https://www.ieee- pes.org/ieee-transactions-on- smart-grid)	Cross disciplinary journal on aspects related to research on and development of the smart grid.	Bimonthly	IEEE



Energies (https://www.mdpi.com/journal/energies)	Peer reviewed open access journal on scientific research, technology development, engineering, and the studies in policy and management related to energy.	Quarterly	MDPI
ACM e-Energy (International Conference onf Future Energy Systems) (https://energy.acm.org/conferences/eenergy/2021/)	International conference computing and communication for smart energy systems and energy-efficient computing and communication systems.	Yearly, next edition: 28/06/2021 – 02/07/2021 – Torino (Italy)	ACM
ACM Buildsys (International Conference on Systems for Energy-Efficient Buildings, Cities and Transportation) (https://energy.acm.org/buildsys-conference/)	International conference on energy-efficient buildings, cities, and transportation driven by networked sensing, computing, and control functions.	Yearly, next edition: November 2021 – Coimbra, Portugal	ACM
ISGT Europe (https://ieee-isgt-europe.org/)	International conference on smart grid and related technologies.	Yearly, next edition: 18- 21/10/2021 – Espoo (Finland)	IEEE PES
IEEE Smartcomp (https://www.smart-comp.info/)	IEEE conference on smart computing, combining advances in sensor-based technologies, IoT, Cyber-Physical Systems, Edge Cloud Computing, Big Data Analytics, Machine Learning, Cognitive Computing, and AI.	Yearly, next edition: 23- 27/08/2021 – Irvine (California, USA)	IEEE
IEEE SmartGridComm (International Conference on Communications, Control, and Computing Technologies for Smart Grids) (https://sgc2020.ieee-smartgridcomm.org/)	International conference on communications, energy, control, signal processing, analytics and information systems related to smart grids.	Yearly, next edition: 18- 21/10/2021 – Aachen (Germany)	IEEE Comsoc
International Conference on Network and Service Management (http://www.cnsm- conf.org/2021/)	International conference covering all aspects of the management of networks and services, pervasive systems, enterprises, and cloud computing environments.	Yearly, next edition: 25- 29/10/2021 – Izmir, Turkey	
IEEE Netsoft (International Conference on Network Softwarization) (https://netsoft2021.ieee-netsoft.org/)	International conference on software-defined networking (SDN), Network Function Virtualization (NFV) and Cloud-Edge-Fog Computing.	Yearly, next edition: 28/06/2021 – 02/07/2021 – Tokyo (Japan)	IEEE
Closer (International Conference on Cloud Computing and Services Science) (http://closer.scitevents.org/)	International conference on cloud computing and aspects of Services Science related to cloud computing.	Yearly, next edition: 28- 30/04/2021 – online	ACM
Applied Energy (https://www.journals.elsevier.com/applied-energy)	Applied Energy provides a forum for information on innovation, research, development and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, analysis and optimization of energy processes,	Twice a month (1 st and 15 th of each month)	Elsevier



	mitigation of environmental pollutants, and sustainable energy.		
Renewable Energy (https://www.journals.elsevier.com/renewable-energy)	The journal, Renewable Energy, seeks to promote and disseminate knowledge on the various topics and technologies of renewable energy systems and components. The journal aims to serve researchers, engineers, economists, manufacturers, NGOs, associations and societies to help them keep abreast of new developments in their specialist fields and to apply alternative energy solutions to current practices.	Twice a month	Elsevier
Sustainable Energy, Grids and Networks (https://www.journals.elsevier.com/sustainable-energy-grids-and-networks)	Sustainable Energy, Grids and Networks (SEGAN) is an international peer-reviewed publication for theoretical and applied research dealing with energy, information grids and power networks, including smart grids from super to micro grid scales. SEGAN welcomes papers describing fundamental advances in mathematical, statistical or computational methods with application to power and energy systems, as well as papers on applications, computation and modeling in the areas of electrical and energy systems with coupled information and communication technologies.	Monthly	Elsevier

VI.6. Communication and Dissemination (Multipliers)

The BIGG results will be actively promoted and presented on industry-oriented events, workshops and conferences. A number of potentially interesting events have been identified and shared with the BIGG project partners. This list will be continuously updated with new opportunities and to keep track of BIGG partner presence and contributions to these events.

The table below gives an overview of the identified events up to now.

Table 4. Events

Event	Description	Date/ Periodicity/ Location	Benefit of attending
Sustainable Places (https://www.sustainableplaces.eu/)	Platform for the dissemination of research, the conduct of workshops, EU project clustering and networking between stakeholders of all types.	Yearly, next edition: Milan (Italy)	Showcasing BIGG project via presentation, poster or demo, networking with other EU projects.
CIB W78 – LDAC (https://www.cibw78 -ldac-2021.lu/)	Scientific and industrial conference in the domains of Construction Informatics, BIM, Digital Twin and Knowledge Management.	Yearly, next edition: 11- 15/10/2021, Luxembourg	Present the project via a presentation or by organizing a workshop.
EU Energy Days (https://ec.europa.e u/energy/topics/ene rgy-strategy/clean-energy-annual-events/eu-energy-day en?redir=1)	Workshops and networking events related to EU's initiatives to promote clean energy technologies.	1-3 times/year, location varies	Interesting for networking.



EU Sustainable Energy Week (EUSEW) (https://eusew.eu/)	Policy Conference	Yearly, Brussels (Belgium)	Interesting for networking.
BuildingSMART International Standards Summit (https://summit.build ingsmart.org/s/virtu al- summit2021/home)	Keynotes, roundtables, room sessions	Twice a year, next edition: 15- 26/03/2021, virtual	Interesting for networking + maybe present BIGG
AEEBC General Assembly (Association of European Experts in Building and Construction) (http://aeebc.org/ev ents.html)	Their expertise includes building pathology; asset protection; design and specification of new buildings; construction and project management; building maintenance, repair and renewal; legal work and expert witness.	Yearly, next edition: April 2021, virtual	Interesting for networking.
EuroACE Business Day (European Alliance of Companies for Energy Efficiency in Buildings) (https://euroace.org/ home/euroace- events/2019- business-day/)	Workshop. Their expertise includes manufacture, distribution, and installation of a variety of energy savings goods and services.	Yearly, next edition is virtual	Interesting for networking.
EuMAT events (https://www.eumat.eu/en/about-eumat)	Workshop. EuMaT should improve coherence in existing and forthcoming EU projects, in the field of materials R&D.	Yearly, next edition is virtual	Interesting for networking.
Build Europe events (https://buildeurope.net/)	Representative of developers and house builders' interests with the European institutions as well as with stakeholders.		Interesting for networking.
DigiPLACE project's events and community (https://www.digiplaceproject.eu/events)	Workshops & seminars	Several per year, location varies	Interesting for networking.
ECTP Conference (http://www.ectp.org //)	Conference. More than 170 stakeholders from the whole construction value-chain and representatives of the European Commission shared their experience and discussed how the EU construction industry is shaping a high-tech Sustainable Built Environment.	Bi-yearly, next edition in Madrid (Spain) in 2021	Interesting for networking.
Enlit Europe (former European Utility Week & POWERGEN) (https://www.enlit-europe.com/welcome)	Large exhibition and professional conference for energy companies.	Yearly, next edition: 30/11 – 2/12/2021 in Milan (Italy)	Interesting to present the project to a wide range of energy companies and professionals.
Future Summit (https://www.futuresummits.com/)	Imec's demonstration and networking event where its latest research developments are presented.	Yearly, next edition in 2022.	Opportunity to showcase a PoC demo to a large public from



		Antwerp, Belgium	academia and industry.
E.DSO events (European Distribution System Operators) (https://www.edsofo rsmartgrids.eu/even ts/)	Regular webinars and events on smart grids.	Several per year, typically in Brussels, Belgium	Interesting for networking and to present the project to DSOs.
CLIMATHERM ENERGY GREECE (https://climatherm. gr)	Large exhibition and professional conference for energy companies.	Yearly in Athens (Greece)	Opportunity to showcase a demo to a large public from industry.
MCE - Mostra Convegno Expocomfort (https://www.mcexp ocomfort.it/)	Global event where companies and professionals in the HVAC+R, renewable sources and energy efficiency sectors gather.	Yearly in Milan (Italy)	Opportunity to showcase a demo to a large public from industry.

VI.7. Project Videos

At least **2 project videos** will be created to communicate the principal messages from the project to the stakeholders. The first video will present the project's main objectives, the different pilots, business cases and use cases that will be implemented and validated. The second video will present the final results at the end of the project.



VII. PROJECT EVENTS AND WORKSHOPS

In the countries where the BIGG solutions will be deployed and validated via demo cases and pilots (Spain, Greece) workshops will be organized with local partners and stakeholders, BRIDGE representatives and policy makers. These workshops will typically be organized in the vicinity of a pilot demonstration, but could in some cases be replaced by webinars.

Throughout the project, several webinars will be organized as training sessions for building professionals: 3 webinars, one for each business cases group or 2 if all business cases are presented together at M18-20 and M36.

At least 6 training sessions will be organized at a national level for the local building experts involved in the project (one for each business case), where local external stakeholders might be also invited. In addition, the organization of another 6 training sessions could be considered specifically for the local external stakeholders.



VIII. Branding of the Project

VIII.1. Logo

The branding of the project starts with the BIGG's logo. After several proposals shared in an online poll as described in D8.1, all the participants shared their opinions in order to design the final version.



Figure 7 - BIGG final logo

VIII.2. Colour Chart

The colour chart of the logo will be the same for the marketing material of the project in all communication and dissemination documents.

			•
	Blue	Yellow	Teal
R	0	224	7
G	68	192	147
В	148	22	147

Table 5. Colour code of the BIGG logo

VIII.3. Templates

As detailed in D8.1, templates have been provided to all the consortium partners for:

- Deliverables: a Word document as the one used for this deliverable
- Presentations: a PowerPoint document including the branding material, such as the logo and the colour palette.

IX. MONITORING AND KPIS

The success of the communication and dissemination actions to promote the project results will be measured with a number of Key Performance Indicators (KPIs), listed in the table below.

Table 6. Key Performance Indicators

KPI description	Target Audience	Target KPI Value
Number of industry-oriented events, workshops and conferences (w/o scientific publication) in which BIGG partners will present the project.	TA1, TA2, TA3, TA4	At least active participation (presentation) in 12.
Number of actions organized by standardization bodies and regulators to which BIGG will participate.	TA2	At least in one meeting at 3 different entities.
Number of entities which are members of building-related associations that will be informed by the project and its results.	TA2	200
Number of scientific publications in conferences, events and journals (prioritizing quality vs quantity and promoting joint publications).	TA1, TA2, TA3, TA4	At least 10 publications
Number of white papers published (scientific and/or industrial).	TA1, TA4	At least 3
Number of events where BIGG will show a poster.	All	At least in 10
Number of events in which brochures and/or leaflets will be distributed.	All	At least 20
Number of public events organized by BIGG.	TA5	At least 4
Number of training sessions organized for building professionals.	TA1	At least 6 (one/business case)
Number of press releases published, translated into local language and distributed among local media.	All	At least 6 (two per year)
Number of produced videos introducing the project and its results.	All	At least 2, one as an introduction and one presenting final results.
Social media channels for community building.	All (LinkedIn for TA1, TA2, TA3 and TA4; Twitter more oriented towards TA5)	To reach at least 500 followers in each social network, to post at least 2 posts per month in each social network.



Frequency of blog posts and short news feed on BIGG website on topics treated during the project.	All	1 post per month.
Number of large-scale dissemination campaigns.	All	2 campaigns at M19 (once 1st evaluation results are available) and at M36 (with final results).



X. CONCLUSIONS

This document, together with D8.1, presents the activities planned to ensure a successful communication and dissemination of BIGG project results. It describes the objectives, the targeted audience and key stakeholders, the main outputs and material to disseminate along the project, as well as the channels which will be used to increase the visibility of the project.

Communication and dissemination are a continuous process, thus, all the activities described within this document will be carried out throughout the 36 months of BIGG, with different focus depending on the stage of the project.



