

Commission

# HIGH LEVEL CONSTRUCTION FORUM

### **Event report**

Webinar: Building Information Modelling and Public Procurement – Two Allies

Technical Secretariat of the HLCF / 6 December 2022

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#### **General overview**

On the 6<sup>th</sup> of December 2022, the Technical Secretariat of the High Level Construction Forum (HLCF) organised the **webinar 'Building Information Modelling (BIM) and Public Procurement – Two allies**' to:

- Announce the launch of the 'BIM in Public Procurement' community within the broader 'Digital Public Buyers Platform'.
- To promote good practices within the construction sector and steer Member states to take next steps for the integration of BIM in Public procurement by means of two panel discussions: firstly, on the expectations and needs of the public sector, followed by a second panel on the needs of contractors and the private sector.

The following **key messages** were raised during the session:

- The **'BIM in Public Procurement' community will be launched in the beginning of 2023**. This platform will serve as a community of practice of public authorities and public procurers for construction and infrastructure projects to share lessons learned and best practices when it comes to implementing BIM through public procurement.
- In order to facilitate information sharing, accessibility, and archivable information, we need to urge public procurers to work with **openBIM**.
- The role of BIM in the green transition of construction is a cross-cutting issue that cannot be ignored. Therefore, the potential of BIM in Public Procurement is not limited to increasing transparency, it should also be a key contributor to the green transition of construction.
- With respect to the implementation of BIM in Public Procurement, the main challenges the construction sector is currently facing are not technological, but, rather, cultural, related to how the methods of procurement are legally handled in the contracting phase.
- For the private sector, the main challenges in how BIM is implemented and procured are connected to the fact that every procurer has different requirements. More specifically, for engineers, the biggest challenge is matching the expectations of the client with the reality. Therefore, public clients must find the right scale of the project to experiment with BIM and other technologies.
- Collaborative contracting is a way to solve the mismatch between the expectations and needs and what is being delivered in practice, since all key players are involved from the beginning of the project.

The webinar was attended by 82 individuals (see the list of participating organisations in the Annex). The recording of the session can be found <u>here</u>.



#### **Opening remarks by the European Commission**

*Ms llektra PAPADAKI Team Leader at DG GROW Unit H.1, European Commission* opened the meeting. She explained the importance of bringing together the HLCF and the Public Procurement (PP) community together in this webinar, as these two communities are highly interconnected. On the one hand, PP can help the construction industry accelerate the adoption of digital collaboration methods technologies and tools. On the other hand, BIM can support public procurement by enabling transparency, trust and resource savings. However, Ms Papadaki also acknowledged that the work of the public sector with BIM and PP risks hindering competitiveness and innovation in the construction industry.

Accordingly, she highlighted that the European Commission has been working closely with Member States to ensure that the public sector is not on the wrong track when procuring for construction. Since the Directive 2014/24/EU on public procurement<sup>1</sup> came out, the European Commission and Member States have co-developed and proposed various tools for BIM in PP such as the cost benefit analysis methodology<sup>2</sup>, trainings in Member State level for public administrators, the European BIM Handbook<sup>3</sup>, DG REFORM's Technical support Instrument for Member States<sup>4</sup> and the development of national BIM strategies.

#### **Collaboration through the Digital Public Buyers Community**

*Ms Anita POORT, Policy Analyst at DG GROW Unit C.2, European Commission* gave the first presentation of the day, where she announced the Digital Public Buyers Community that will be launched in February 2023 for 4 years. By 2027 the Commission will evaluate its performance and contribution to the Public Procurement Community (see Figure 1 for an overview of the planning timeline).



#### Figure 1: Planning timeline for the Digital Public Buyers Community



<sup>&</sup>lt;sup>1</sup> https://eur-lex.europa.eu/eli/dir/2014/24/oj

<sup>&</sup>lt;sup>2</sup> Methodology handbook for calculating costs and benefits for the use of BIM in Public tenders: http://www.eubim.eu/wp-content/uploads/2021/05/Cost-Benefit-Analysis-for-the-use-of-BIM\_user-handbook.pdf

<sup>&</sup>lt;sup>3</sup>Handbook for the introduction of BIM by the European Public Sector:

http://www.eubim.eu/downloads/EU\_BIM\_Task\_Group\_Handbook\_FINAL.PDF

<sup>&</sup>lt;sup>4</sup> https://ec.europa.eu/info/funding-tenders/find-funding/eu-funding-programmes/technical-supportinstrument/technical-support-instrument-tsi en#aboutthetsi

Ms Poort explained the **three general objectives** of the platform:

- To set up a distributive public procurement network among public buyers themselves and between the public buyers and the Commission. The platform will make use of collective intelligence and team up for joint actions on the topic of public procurement on an EU level through 'communities of practice'.
- To establish the Commission's main channel for communications on Public Procurement tools, trainings and events.
- To connect public procurers to other relevant forms and initiatives from the European Commission, e.g., by connecting the PP and the construction communities through this webinar.

Next, Ms Poort gave an overview of the main communities that will be part of the Digital Public Buyers community, namely:

- Big buyer groups (currently 4 groups on climate and environment with the aim of scaling it up to 10 groups).
- A community on buying Artificial Intelligence (AI), where AI clauses will be developed in accordance with the upcoming EU AI legal framework<sup>5</sup>.
- A network of central purchasing bodies (CPB) in Europe, as well as its corresponding CPB alumni network, which will be able to keep contact with each other about issues such as training programme for CPB staff<sup>6</sup>.
- A community dedicated to buying sustainable solar panels, which will be aligned with the upcoming European Solar Photovoltaic Industry Alliance<sup>7</sup>.
- **BIM in public procurement**. The following presentation by Pieter Staelens will elaborate on this community.
- Legal review bodies network in Eastern Europe.
- A community of European network of competence centres<sup>8</sup>, which will focus on solutions that aim to align national competence platforms with European networks.

Ms Poort ended her presentation by sharing a mock-up of the platform with the audience. She explained that the platform will have three layers, i.e., (1) a first publicly accessible layer, (2) a second layer where you log in with an Profile to create a member profile and (3) a third layer - where membership and play rules are set by the communities themselves - in which all public buyers in Europe can have discussions on different topics, including one specific community on BIM.

strategy.ec.europa.eu/en/policies/regulatory-framework-ai

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<sup>&</sup>lt;sup>5</sup>Regulatory framework proposal on artificial intelligence: https://digital-

<sup>&</sup>lt;sup>6</sup> https://eismea.ec.europa.eu/funding-opportunities/calls-proposals/sme-friendly-training-central-purchasing-bodies\_en

<sup>&</sup>lt;sup>7</sup> https://commission.europa.eu/news/commission-kicks-work-european-solar-photovoltaic-industry-alliance-2022-10-11 en

<sup>&</sup>lt;sup>8</sup> https://procure2innovate.eu/home/

#### **Digital Public Buyers Community - BIM in Public Procurement**

*Mr Pieter STAELENS, Policy Officer at DG GROW Unit H.1, European Commission* gave a presentation on the specific community on BIM in Public Procurement that they are building, whose target public are all teams procuring services for construction, i.e., all types of public bodies, institutions, and (private) organisations that work on PP in construction on a national, regional and local level. This community will provide the PP community with a clear repository of accessible documents, a knowledge exchange platform and a tool for the Commission to reach out to stakeholders and other Directorates-General. More specifically, the community on BIM in PP will provide **a platform for sharing tools such as the cost benefit calculation handbook, strategies followed by national and regional authorities, a repository of best BIM and public procurement practices, participation of experts in activities, news items, questions, and contacts.** 

With respect to the governance of this platform, Mr Staelens explained that DG GROW acts as the owner and Intrasoft as the technical manager. However, since **the community will be largely self-governing**, the roles of community leader and manager, topic manager and moderator will also need to be determined.

Mr Staelens then went on to present the 18-month long 'Digitalisation of the built environment' initiative (2023-2024), which will support setting up of the Community of practice on BIM in Public Procurement. He announced the work package on BIM included in this initiative which includes:

The initiative will support the development of the community of practice with some specific tasks, e.g., with a scan of the field of public buyers and other relevant public authorities and (private) organisations, awareness campaigns and further stakeholder engagement with the aim to identify the specific roles for the community mentioned above, as well with a proposal for a more detailed roadmap on goals and deliverables for the community.

Mr Staelens ended his intervention by stressing that **the potential of BIM in Public Procurement is not limited to increasing transparency,** but that **it should also be a key contributor to the green transition of construction.** Lastly, he welcomed the audience to participate in the community of practice, by showing interest in taking on one of the roles explained above or providing the platform with any relevant document or additional input.

#### Panel discussion on the needs and expectations of public buyers

#### Introductions by the panellists

*Mr Jaan SAAR, Deputy Chair of the EU BIM Task Group*<sup>9</sup>, represented this Group of pubic clients interested in digitalising the industry and using BIM in Public Procurement, which has many connections to the Community of Practice presented by Pieter Staelens. Mr Saar works for the Estonian Ministry of Economic Affairs & Communications in 2018 with the goal to digitally transform construction in Estonia. Accordingly, he shared a few introductory updates on the implementation of BIM in Estonia. Since there is no specific BIM mandate in Estonia, Mr Saar is currently working on getting public clients to use BIM and highlighted that the biggest public clients are already using BIM. In addition, public authorities in Estonia are also making advances on technological aspects, e.g., by converting the Ministry's digital permit system to a BIM based system.

Milena KONTOU, Chair of the Steering Committee for the Deployment of the Strategic Plan and Roadmap for the implementation of BIM in Greece, Greek Ministry of Infrastructure and Transport, shared an update on the implementation of BIM in Greece. She introduced the key initiatives of the Greek national strategic plan and roadmap she is currently working on, in collaboration with the European Commission's Directorate-General for Structural Reform Support (DG REFORM), which 6



<sup>9</sup> http://www.eubim.eu/

include the execution of projects and programmes related to procurement, i.e., national BIM guidelines, education, product data, BIM libraries, processes and data exchange, regulatory frameworks, pilot projects and the establishment of a task force with key stakeholder representation to manage a five year programme for the delivery of the national BIM implementation plan.

Ms Kontou shared with the audience the interventions that should be currently prioritised in Greece, i.e., a tender on a public works BIM pilot project, upscaling skills, requirements, and the technical knowledge of contractors for the modification of public projects, legislative amendments and the adoption of BIM guidance documents. She ended her introductory pitch by highlighting that the roadmap is the first governmental initiative in Greece aiming to introduce mandatory BIM requirements in public works.

Jocelin BIRLING, Manager of BIM and Configuration Management at Société du Grand Paris<sup>10</sup>, which is a public organisation in charge of building metro line expansions in the Metropolitan region of Paris, introduced the new metro line that this public organisation is building in Paris, where all projects are making use of BIM. Accordingly, all the buildings that are being built under this metro line project in Paris have already been digitalised. Mr Birling added that Société du Grand Paris is currently mainly using BIM in modelling, thanks to which they have produced a uniform database of all the models.

#### Discussion

The following points of discussion were raised during the panel: (1) current practices regarding the structure and organisation of data in calls for tenders where the public administration requires the usage of BIM, including (2) the practices that can be implemented in smaller calls for tender by local authorities, (3) the cultural change needed to upscale BIM in the industry and (4) the role of BIM in accelerating the uptake of key sustainability indicators.

With respect to the **current practices regarding the data in calls for tenders that require the usage of BIM**, Mr Saar highlighted that in Estonia, as well as in many Nordic Countries, **the usage of openBIM is the most important aspect in a call for tenders where BIM is demanded**. He clarified that openBIM is a way of using BIM in an open format - including files, processes and tools – so that information sharing can become more accessible and archivable. Accordingly, Mr Saar explained that the EU BIM Task Group has recommended the Commission to include openBIM in a more comprehensive way in the 2014/24/EU Public Procurement directive in their position paper "Accelerating the Green, Digital and Resilient Transition by Implementing Building Information Modelling in Public Procurement"<sup>11</sup>.

Mr Birling agreed with Mr Saar on the importance of using openBIM, while adding that at Société du Grand Paris they also work with Industry Foundation Classes (IFC) files. Since they work with a vast array of software that produce the data, he stressed the importance of having a common structured way to store this data. He stressed that switching to **openBIM will be crucial in order to collaborate and share the data with all interested parties** and explained that their current work practices related to BIM are still limited to internal use.

With respect to **the implementation of BIM in smaller calls for tenders by local authorities**, Mr Birling was confident about the possibility of using BIM in more local and small-scale contexts, by adapting the process, e.g., by asking for structured data in an excel file that can be integrated later into the model, instead of asking for complex modelled data.

Next, the discussion addressed different tools and methodologies that can be applied to foster the mentality shift needed to implement BIM and collaboration among key stakeholders. Ms Kontou highlighted that in order to address this challenge we should not focus on technological aspects, but, rather, on the methods of procurement. She mentioned that after the design phase, when the



<sup>&</sup>lt;sup>10</sup> https://www.societedugrandparis.fr/

<sup>&</sup>lt;sup>11</sup>http://www.eubim.eu/eubtg-position-paper-on-bim-in-public-procurement/

contracting phase is carried out, we should focus on the way procurement is handled legally in terms of contracts.

Accordingly, Ms Kontou emphasised that that **the implementation of BIM in the construction sector requires a cultural change in training**. This shift in currents practices is hampered by stakeholders' rooted habits and shared some insights on how to foster collaboration among key stakeholder who frequently show conflicting interests, i.e., some basic steps towards implementing the required cultural change among all the key players. She stressed the need to raise awareness and target clients who do not recognise the importance of BIM by including a project delivery method in tender documents, e.g., through an integrated project delivery, or adopting a specific BIM protocol. In additional, she emphasised the stakeholders who play a key role in introductory BIM concepts and project delivery methods, e.g., in integrated product delivery in the context of renovation projects.

Mr Saar followed on the topic of cultural challenges by agreeing with Ms Kontou on the need to address the non-technological aspects of procurement and picked up on a statement shared by a member of audience mentioning that **90% of procurement in the EU is still based on price**. Accordingly, in order to foster more collaborative public procurement practices, Mr Saar explained that Estonia is exploring a new type of contracting form known as an **alliance contract**<sup>12</sup>, inspired by the work of public procurers in Finland. This collaborative form of delivering a project consists of bringing together an 'alliance team' where you establish one contract between the designer, the contractor, the client, the user or any other party you wish to involve for the successful delivery of the project. In this way, public procurers can deliver a project based on the outcome, the quality and the team collaboration.

Lastly, the panel briefly discussed the role of digital tools and methodologies to accelerate the update of sustainability key performance indicators (KPIs). According to Mr Saar, the update of KPIs should be carried out by means of digital tools. **If we wish to reduce the greenhouse gas emissions from the built environment, the waste inefficiency in the whole construction life cycle must be tackled**. He explained that thanks to digital tools we can optimise the use of resources and create the best possible working environment for the assets we are creating.

# Panel discussion on the needs of the contractors and the private sector

#### Introductions by the panellists

The panellists first shared some introductory remarks on how they viewed the benefits of introducing BIM in Public Procurement. *Ms Sue ARUNDALE, Director General at the European Federation of Engineering Consultancy Associations (EFCA),* clearly stated that using BIM is beneficial for engineers, since the engineering sector thrives on complexity and drives innovation. She stressed that consulting engineering firms are already using BIM, as well as EFCA's support for BIM as a requirement in public contracts for technical design services, for construction and for infrastructure projects. Ms Arundale added that the potential benefits of BIM can improve the design, construction, use phase and demolition at the end of the life cycle.

Next, *Mr Fernando SIGCHOS JIMÉNEZ, Secretary General at the European Builders Confederation (EBC),* provided the audience with the voice of construction SMEs and crafts. He stressed that the evolution towards using BIM in public procurement should not create further obstacles for SME's accessing public contracts, since small companies are already struggling with traditional forms of public procurement. He urged key stakeholders to strategically rethink procurement in view of the reality of a diminishing interest and participation and hoped that the inclusion of BIM in public



<sup>&</sup>lt;sup>12</sup>https://aliantlaw.fi/2022/10/06/alliance-model/

procurement acts as a pivotal element in shifting towards a more digital construction sector that does not leave SMEs behind.

Lastly, *Ms* Annina LEHIKOINEN, CEO at Building Information Model Ltd, Manager of building SMART Finland, provided the audience with the challenges of both the private and public sectors, as she possesses experience both in the private sector as an architect and civil engineer, while also having worked at the public sector the city of Helsinki (Finland). Ms Lehikoinen stressed that the standardised use of BIM throughout the whole life cycle of a building is crucial for achieving EU Climate neutrality goals in the built sector. Accordingly, she called for a wide deployment of BIM in the industry.

#### Discussion

The discussion that followed the speakers' introductory pitches raised the following discussion points: (1) specific challenges that the private sector is facing on the uptake of BIM in construction, (2) examples of best practices, (3) the need from other professions in the construction sector and (4) the potential role of the community of practice in the adoption of BIM by the private sector.

According to Ms Lehikoinen, the main challenges in how BIM is implemented and procured are connected to the fact that every procurer has different requirements, which puts considerable pressure on limited resources. She called for standardising properties and how BIM is used and procured, so that resources can be used in a smarter way, enabling the necessary conditions to effectively work on the quality of the project delivery.

Ms Arundale spoke about the challenges for engineers related to the usefulness and cost-effectiveness of BIM in certain projects. She provided the audience with two specific examples, e.g., in renovation projects and small-scale projects the cost of scanning all the necessary requirements and creating a digital twin or 3D model is probably going to be prohibitive because that's going to be a huge part of the cost. Accordingly, she stressed the need to assess whether BIM is useful for the specific project in question and that **the biggest challenge for engineers is matching the expectations of the client with the reality.** Even though engineers are able to deliver BIM data in Public Procurement, she explained that the public clients do not always know what they want to use the data for. As a matter of fact, highly sophisticated systems are sometimes put in place upon the client's request, even if they are not used further down the line. These practices are not cost-effective as neither the full potential of the design nor the data are not going to be used in the building's use phase.

Mr Sigchos followed the discussion on challenges, by sharing some **BIM-specific challenges that SMEs** face when participating in public contracts, such as administrative burdens, the lack of knowledge on construction of public purchasers, the persistence of abnormally low tenders, or the general focus on price instead of quality of works and long-term performance. He re-iterated that SMEs already face considerable challenges in traditional forms of public procurement and that small enterprises' fear that BIM requirements might overburden them. He went on to give an example of what could happen if BIM were to become prescriptive in commercial divisions, i.e., digital tools restricting the choice of materials or concerns about the shared responsibilities with regard of the use of digital models

With respect to **best practices**, Ms Lehikoinen agreed with Mr Saar on the importance of using openBIM and called for **standardising properties in openBIM models as a first step**. However, she added that this will not be enough, as **there is an urgent need for a plan on how to standardise the use of BIM**. In addition, Ms Arundale considered that collaborate contracting is an excellent practice, which ensures that stakeholders can dialogue from the early stages of the project. Through this form of contracting all key players are involved in the process, as the needs of the client are not only discussed in the design and engineering phase, but also with the contractors and the users. Furthermore, she strongly believes that **collaborative contracting is a way to solve the mismatch between the expectations and needs and what is being delivered in practice**. On the other hand, Mr



Sigchos suggested that promoting the practice of introducing BIM as a condition to execute a contract, rather than a criteria for the evaluation of the offer, would be a more inclusive practice for SMEs.

Next, the moderator asked the panellists to share key messages with respect to **their needs from other professions in the sector**. Mr Sigchos urged standardisation experts to **ensure that emerging standards are aligned with SMEs' practices**, who often lack the resources to adapt to new standards and therefore risk negatively impacting their everyday professional work. In addition, both Ms Lehikoinen and Mr Sigchos agreed on the importance of explaining digitalisation's long-term benefits for the construction sector.

Ms Arundale suggested that the traditional steps of a project should be rethought and suggested that stakeholders should first explore the end of the project – what this project is expected to deliver in the use (and deconstruction) phase – to understand what they want to achieve in the design phase. Therefore, Ms Arundale highlighted that engineers are keen on collaborating from the very first steps of a construction project since the sector needs as much dialogue as possible with all other interested parties: the client, contractor, facility manager and even the user.

Lastly, panellists shared some thoughts on **the future role of the Community of Practice on BIM in Public Procurement**. Ms Arundale stressed that this community can provide the sector with a platform to engage in mutual educational and understanding. On the one hand, it can help engineers understand how public procurers think. On the other hand, public clients can learn what they are going to gain from the BIM model/digital twin and ultimately the data provided by engineers.

Mr Sigchos spoke about the **unequal application and enforcement of public procurement criteria at different governance levels**. Therefore, he believes that the community of practice is a step in the right direction to overcome these governance mismatches, by connecting all key stakeholders in one single platform. Mr Sigchos hoped that this online community will provide SMEs with a platform to discuss the Commission's upcoming implementation guidelines, as well as a platform to develop trainings on BIM in Public Procurement implementation guidelines for SMEs, in order to prepare the sector for mandatory BIM requirements.

#### **Concluding remarks**

*Mr Ivo Locatelli, Senior Expert and Team Leader at DG GROW Unit C.2, European Commission,* closed the session by summarising the session's key points of discussion, i.e., realistic public procurement, understanding the needs of buyers, the need for dialogue, mutual education, training, cultural change, guidance and looking at the right scale of projects. The commission highlighted that the session provided policymakers with useful input for the European Commission's next implementation steps and that the high level of interaction and interest from the audience, who posted several questions in the chat, shows the need to encourage discussion and clarification on the topic of BIM in PP. Accordingly, he stressed that the Community of Practice will support further discussion and clarification on this topic. He also reminded the audience about the digital platform that was announced by Ms Poort, which will be available in February 2023. The session concluded by inviting stakeholders to join the HLCF mailing list<sup>13</sup> and the Public Procurement gazette<sup>14</sup>.



<sup>13</sup> https://ec.europa.eu/eusurvey/runner/d5823bdd-cd51-798d-ad6d-3807202c4903

<sup>&</sup>lt;sup>14</sup> https://ec.europa.eu/newsroom/growth/user-subscriptions/2738/create

## Annex – List of participating organisations

Stakeholder name	Stakeholder name
Freelance	Technological University of the Shannon: Midlands Midwest
Ineco	IA
ACE	C40
тим	ANCE
Bundesarchitektenkammer	STAM SRL
Cobuilder France	Tecuci Paltineanu SCPA
PORR	Tecuci Paltineanu SCPA
BG BAU - DIN NA 005-13	Hyphen
Studio Amica srl	Ministry of Interior
ΓΓΥ/ΓΔΣΥ	Independent
Wildeboer Bauteile GmbH	Public Procurement Consultant
BOUSSIAS	#SustainablePublicAffairs
Kerakoll Group	NTNU
Ministry of Transport and Infrastructure	Building smart
Υπουργείο Υποδομών	European Commission
КТН	CEMEX Deutschland AG
NSAI	#SustainablePublicAffairs
Ministry of industry and trade	FIEC
Ministry of Regional Development and Public Works	TUS
ANAIP	Saint-Gobain
Ministry of industry and trade	Assa Abloy
3M United Kingdom PLC	Confindustria Ceramica
Ministry of Infrastructure and Transport	Architects' Council of Europe



Bucharest University	Stora Enso
Building information foundation RTS SR.	TUS
UNEP	Atlantic Technological University
ITed	R2M Solution Srl
Privat	South Muntenia Regional Development Agency
Latvian Association for Construction Industry Digitalization	Nordic Sustainable Construction
Fsre	Saneringsspecialisterna Sverige AB
OERN	СЅТВ
BEAM CUBE	RICS
SIDIR - POLAND	Deloitte
Universidade de Coimbra	University of Minho
JRC European Commission	empirica Communication and Technology Research
Câmara municipal de montalegre	Teixeira Duarte
Consejería Educacion Canarias	PwC Greece
Trimble Consulting	Faculty for the Built Environment, University of Malta
Just BIM it	European Commission DG GROW
Universidad de La Laguna	State Inspectorate
Pipelife International	INGEMA SOLUTION
EC JRC	European Commission
EEAS	European Commission
Banco de Portugal	European Commission
Jp Elektroprivreda Biah d.d. Sarajevo	European Decontamination Institute, EDI
University of Turin	Serbian Demolition Association
Politecnico di Milano	State inspectorate, Labour inspection
LDK CONSUTLANTS	University of Bucharest



University of Seville	Farca Laura Law Office, Bucharest University
MCA Nepal	State Labor Inspectorate of the Republic of Lithuania
Public Sector Project Implementation Unit Belgrade	ZDH - German Confederation of Skilled Crafts and SMEs
Hellenic Single Public Procurement Authority (HSPPA)	Câmara Municipal do Porto
UNITO	PU Europe
Aprscp	EFCA
FPS	Bouwend Nederland
IQ Kecskemet Industrial Research Ltd	French Ministry of Ecological Transition and Solidarity - Directorate for housing, urban development and landscapes
Société du Grand paris	ZDB - German Construction Federation
Wienerberger AG	ECO Platform AISBL
Ministry of Regional Development and Public Works	Cobaty International
CTMNC	EBC- European Builders Confederation
EFCA	Claves International AB
Teneo	Rúben Rodrigues Reis - Arquitetura, Unipessoal Lda
EU BIM Task Group	Swedish Wood
TalTech	European Builders Confederation EBC
APUC	Emel
IECE	ATIC   Associação Técnica da Indústria de Cimento
BIM association Slovakia / Slovak University of Technology in Bratislava	Association of the Austrian Wood Industries
	TEPPFA
Addleshaw Goddard (Ireland) LLP	Regional Energy Agency North
Detemmerman	EPEE



United Nations Development Programme (UNDP)	NTT Data
Politecnico di Milano	Modern Building Alliance
Hoa Binh Construction Group	WTO
SIS	SEP Lab
Living Future Europe	МРО
Cemex	ECB
Secretariat High Level Construction Forum	Architects Sweden
Ecoinnovazione	Onsynergy
MBB Group	Max Bögl Nederland BV
Nexans	CML
Modern Building Alliance	ΕΟΤΑ
Obopt	UNIEP
Trespa International	Milestone
Heidelberg Materials	Câmara Municipal de LIsboa
CERTH	Empresa Municipal de Mobilidade de Lisboa
Frederick Research Center	EIB
Cemex	weTHINK. Initiative GmbH
Prodbim (Eurovent)	Eurogypsum
DigitalMedBIM	World Green Building Council
Sirbu&Vornicu	IGFEJ
ContextCommunication	Município do Porto
SCLVN	Lisbon Municipality - Constrution municipal company
BDTA - BUILDING DIGITAL TWIN ASSOCIATION	Rijkswaterstaat
buildingSMART Germany	Permanent Representation of Romania to the EU
VIALIS ENGINEERING	European Builders Confederation EBC



buildingSMART Czech Republic / czBIM	AML
Laura Petrescu Law Office	Ministry of Finance
CEMBUREAU	Agency for Road and Traffic
Freelancer	Public Procurement Office
DG GROW	UNOPS
ROVEST Cluster	OECD
SDG media GmbH	Ministry of the Environment, Climate and Sustainable Development Luxembourg
Ministry of Regional Development	CEI-Bois
Corvinus University of Budapest	CEMBUREAU, the European Cement Association
State Real Estate, Latvia	Architects' Council of Europe (ACE)
NOI AG	ECSPA - European Calcium Silicate Producers Association
State joint-stock company "State real estate"	European Environmental Bureau
NCBR	EuPC
FIEC	Conseil National de l'ordre des architectes
Technological University of the Shannon	Belgian Building Research Institute
TUS	Danish Planning and Housing Authorities
Ministry of Economics	BBRI
RB RAIL AS	EAE   European Association for External Thermal Insulation Composite Systems (ETICS)
Ministry of Physical Planning, Construction and State Assets	Ministry of Regional Development and Public World
Framkvæmdasýslan - Ríkiseignir/The Government Property Agency	ECOS
365 Sherpas Brussels	Apm
UniBs	European Panel Federation
University of Twente	Turkeco
NHIT National Council for Infocommunication	Bentley Systems



Omtre	AKWAS PERITUS CONSEILLERS
TwynstraGudde	Ministry of Regional Development and Public Works
Department of Contracts	Ministry of Environment of the Republic of Lithuania
Estonia Transport Administration	European International Contractors e.V. (EIC)
Philip Lee LLP	UNLP - JURSOC
Austrian Standards International	Bar Library, Belfast
Rivers State Bureau on Public Procurement	ILNAS
JUB	European Commission
Institute for Environmental Research & Sustainable Development (IERSD), NOA	FIEC - European Construction Industry Federation
TU CRETE	Umweltbundesamt - German Environment Agency
NCBR	European Commission
National Centre of Research and Development	Administration de l'environnement (LU)
EC	Morgan Construction NI
JRC	Ministry of Economic Affairs & Communications
Professional break due to family expatriation in follow-up of spouse	Polish Chamber of Architects
University of Turin	Finnish Transport Infrastructure Agency FTIA
Office of Government Procurement	Poznan University of Technology
OECD	Public Procurement Office
Wiener Linien	12PM CONSULTING
Advisory	Green Athens SA
Minsait	Hellenic Construction Industry Council
Eurima	National Technical University of Athens
EC DG JRC - UNIT R.I.4	NTUA



Office of Government Procurement	MIOIR - Manchester Institute of Innovation Research
Public Procurement Office	BAT-kartellet
Ríkiskaup	Ministry of Infrastructure and Transport/G.DAEFK
Ríkiskaup	MINISTRY OF INFRASTRUCTURE AND TRANSPORT
Bocconi University	ΥΠΟΥΡΓΕΙΟ ΥΠΟΔΟΜΩΝ ΚΑΙ ΜΕΤΑΦΟΡΩΝ
integrate investment srl	PPO
VELUX	Directorate of Primary Education





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