



D4.3 – Dissemination and Communication Interim Report



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D4.3 Dissemination and Communication Interim Report

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Abstract

Communication and dissemination are key elements of BIMprove project. Several activities have been implemented during the first 18 Months of the project, enabling the project to highlight and share its results with the community. As the project evolves, additional activities have been designed and will be implemented during the second half of the project, enabling BIMprove to disseminate its results and outcomes to a wider but more targeted audience.

Keywords

Outreach material, dissemination, communication



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BIMprove project

In the past 20 years, productivity in the European construction industry has increased by 1% annually only, which is at the lower end compared to other industrial sectors. Consequently, the sector has to step up its digitization efforts significantly, on the one hand to increase its competitiveness and on the other hand to get rid of its image as dirty, dangerous and physical demanding working environment. Construction industry clearly needs to progress beyond Building Information Modelling when it comes to digitizing their processes in such a way that all stakeholders involved in the construction process can be involved.

The true potential of comprehensive digitization in construction can only be exploited if the current status of the construction work is digitally integrated in a common workflow. A Digital Twin provides construction companies with real-time data on the development of their assets, devices and products during creation and also enables predictions on workforce, material and costs.

BIMprove facilitates such a comprehensive end-to-end digital thread using autonomous tracking systems to continuously identify deviations and update the Digital Twin accordingly. In addition, locations of construction site personnel are tracked anonymously, so that BIMprove system services are able to optimize the allocation of resources, the flow of people and the safety of the employees. Information will be easily accessible for all user groups by providing personalized interfaces, such as wearable devices for alerts or VR visualizations for site managers. **BIMprove** is a cloud-based service-oriented system that has a multi-layered structure and enables extensions to be added at any time.

The main goals of **BIMprove** are a significant reduction in costs, better use of resources and fewer accidents on construction sites. By providing a complete digital workflow, BIMprove will help to sustainably improve the productivity and image of the European construction industry.

CONTENTS

1. Introduction.....	7
2. Communication & Dissemination Strategy: An Update for M18	8
2.1. Overall Strategy Performance & Adaptation.....	8
2.1.1. Communication Strategy Assessment & Next Steps	8
2.1.2. Dissemination Strategy Assessment & Next Steps	9
2.2. Communication & Dissemination Activities Implemented until M18	10
2.2.1. Digital Tools.....	10
2.2.2. Key Collaborations & Press Releases.....	14
2.2.3. Online Articles & Newsletters	14
2.2.4. Technical & Scientific (Peer Reviewed Publications and Conferences ...	16
2.2.5. Events, Conferences & Workshops.....	18
2.3. Activities Matrix.....	22
2.3.1. KPIS	23
3. Agile stakeholder management strategy: evaluation of the strategy	24
4. Conclusions & Next Steps	26
4.1. General Conclusions	26
4.2. The road ahead	26

Index of Figures

Figure 1: Communication & Dissemination Strategy	8
Figure 2: BIMprove Website	11
Figure 3: BIMprove Website New Users	11
Figure 4: EuroXR 2021	17
Figure 5: IEA HPT IoT Annex meeting.....	18
Figure 6: BDTIC	19
Figure 7: Digital twins and integration of AI in construction industry.....	19
Figure 8: SP2021	20
Figure 9: CIB W78 - LDAC 2021.....	20
Figure 10: European Big Data Value Forum 2021	21
Figure 11: Next Steps (in a nutshell).....	27

Index of Tables

Table 1: YouTube Public Videos.....	12
Table 2: Online Articles.....	15
Table 3: Other Events	21
Table 4: KPIs	23
Table 5: Sprint Q1	24
Table 6: Sprint Q2.....	24
Table 7: Sprint Q3.....	25

1. INTRODUCTION

It's not a secret that part of the success of an innovation depends on the awareness about this innovation. Through an effective dissemination and communication strategy, the project and its results can gain widespread attention. Therefore, a solid dissemination and communication strategy ensures the involvement of relevant stakeholders in the project and can offer opportunities for future development.

The current deliverable provides an overview of all key activities and actions related to communication and dissemination that took place during the first half of the project. It gives an analytic presentation of the performance of our digital channels, our participation in physical and online events, our publications online articles, etc.

The basis of this document is [D4.1 BIMprove Impact Master Plan](#) that sets the foundations of our strategy. However, communication and dissemination needs to be agile and ready to adapt according to the needs of the project and the overall environment. Therefore, within the document, we make clear that we have implemented activities ahead of time as we found the opportunity and the right time.

In addition, this document provides an overview and criticism of our unique Agile Stakeholder Management Strategy, an open framework of collaboration with peers and groups that can benefit and contribute to the overall impact of the project. We reveal some key activities and interactions that took place during our first 3 Sprints and highlight the key lessons learnt we extracted from this experience.

2. COMMUNICATION & DISSEMINATION STRATEGY: AN UPDATE FOR M18

BIMprove partners have devoted significant efforts into communicating and disseminating critical project activities, outcomes and findings to the wider community. Chapter 2 provides an overview of the performance of **BIMprove’s Dissemination & Communication Strategy** as defined in [D4.1 BIMprove Impact Master Plan](#) while presenting all key activities that took place during the first 18 months of the project.

2.1. Overall Strategy Performance & Adaptation

Throughout this first 18-month period, communication and dissemination played a significant and crucial role to **BIMprove’s** overall workplan and performance. Although both activities are quite interlinked, in **BIMprove** we chose to treat them as different but closely depended to each other. Our primary focus has been given into defining the appropriate channels and paths for better reach of our audience and target groups while continuously evaluating and adjusting our strategies and activities based on the response that we had and the outcomes that project produced.

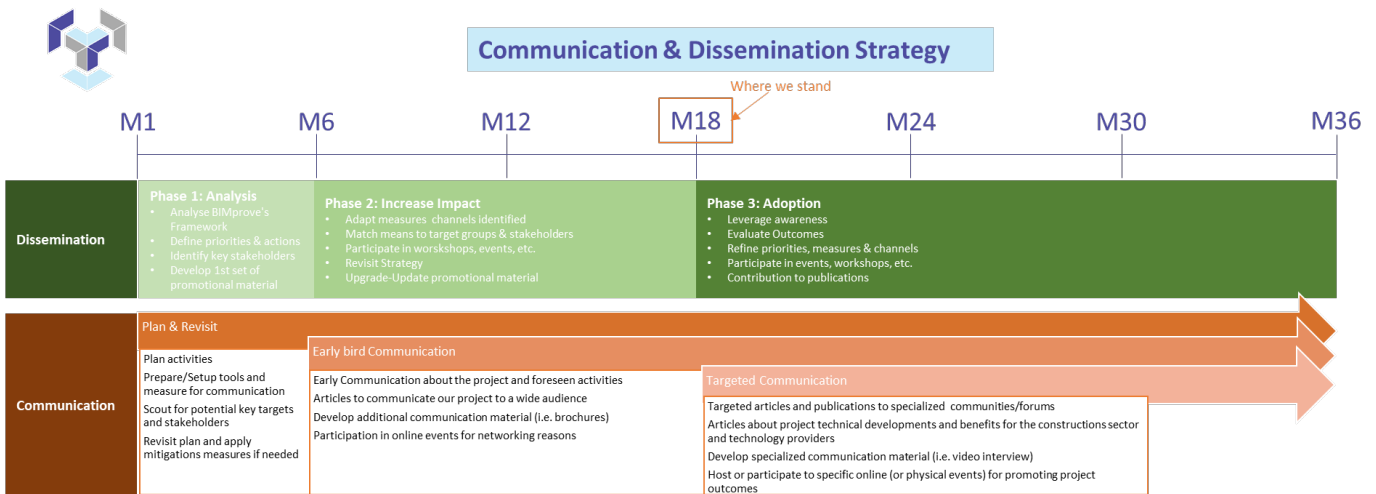


Figure 1: Communication & Dissemination Strategy

2.1.1. Communication Strategy Assessment & Next Steps

During this first period, **BIMprove** allocated most of its communication resources into implementing activities mainly around the two first phases: a) Plan and Revisit and, b) Early Bird Communication. However, it is important to mention that some activities around the third phase (Targeted Communication) have taken place, while emphasis on this phase will be given into the second half of the project.

D4.3 Dissemination and Communication Interim Report

2.1.1.1 *Plan and revisit*

The first communication phase started at M1 of the project and primarily aimed at planning all activities, setting up the main communication tools and channels (Website, Social Media, etc), and identified potential target groups and stakeholders. The result of this phase was the creation of our communication strategy (as reported in [D4.1 BIMprove Impact Master Plan](#)), the development of a number of communication tools (including printed material as described in [D4.2 Outreach Material](#)) and the continuous update of our Stakeholders Database, an internal mindmap which is used to map our primary target groups (stakeholders). This phase will last until the end of the project and it includes the revisiting of our Database, the modification of existing printed material, tools and overall strategy based on project needs.

2.1.1.2 *Early bird Communication*

The second phase started at M6, even though some minor activities have started earlier. During this phase, early bird communication activities took place aiming to communicate both to a wider public and to specific communities, the existence of the project as an instance and its forthcoming activities and actions. Emphasis has been given to the online tools and measures, as they tend to have a wider reach than traditional measures. During this phase, participation for networking purposes to webinars or other online events and publication of articles over the internet about the project took place. This phase will also last for the whole duration of the project as it mainly focuses on communicating the generic aspect of the project to a wide stakeholder base.

2.1.1.3 *Next Steps: Targeted Communication*

The third communication phase will start around M18 as it requires the project to be in relative maturity stage while the first, initial and concrete outcomes are released. During this phase targeted communication activities will take place such as producing and communicating articles, blogs or posts specifically on certain project outcomes and benefits, hosting and/or participating in online events (or physical if possible) for the communication of **BIMprove's** innovations, production of targeted communication material (i.e. videos) for the community, etc. This phase will run in parallel with phase 2 as it focuses on targeted communication actions for specific audiences and not to actions for the whole community. As already highlighted, some targeted communication activities have already started although targeted efforts will be made during the second half of the project.

2.1.2. Dissemination Strategy Assessment & Next Steps

It is a fact that during the first half of the project emphasis has been given mainly to communication related activities mainly because the most solid and mature scientific and technological related outcomes of the project will be released throughout the second half of the project. However, **BIMprove** implemented a number of preliminary activities not only to set up the ground and instruments for achieving a better dissemination outreach during the second half, but also



implemented some hands-on activities such as the publication of a whitepaper and participation in scientific related events.

2.1.2.1 Phase I - Analysis

In this preliminary phase that started at M01, the consortium analysed and noted down means (i.e. scientific journals, publications, key visuals, etc.) and events, related to the project's scientific domains, which we will have to tackle in order to achieve a meaningful and realistic dissemination impact. The results of Phase 1 have been included in [D4.1 BIMprove Impact Master Plan](#).

2.1.2.2 Phase II - Increase impact

The main objective of Phase II, which started at M06, is to increase impact and awareness generated during Phase I and to expose the main **BIMprove** achievements. Another key objective is to start building relationships and interactions with the community to prepare them for the adoption of our outcomes in a later stage. During this first project period, the consortium has started building relationships with key initiatives by signing MoUs, participate in events and bilateral discussion in order to prepare the ground for the next phase. Synergies with exploitation and standardisation activities are also crucial.

2.1.2.3 Next Steps: Phase III - Adoption

This phase, which will start at M18, will leverage the general awareness raised in Phase I and Phase II, attracting more potential users, customers and adopters of **BIMprove** project's results. This phase will start from M18 and afterwards mainly because the project will have more mature outcomes to present and display. The ultimate goal is to diffuse our knowledge and outcomes into other initiatives, though dedicated activities (i.e. scientific journals, conferences, white papers, presentations, etc.). As above, synergies with exploitation and standardisation activities are of great importance.

2.2. Communication & Dissemination Activities Implemented until M18

This first project period, **BIMprove** has implemented a large number of communication and dissemination activities. While some of them clearly belong to one segment or another (communication or dissemination), a significant proportion of them belong to both segments as they serve a two-fold purpose.

2.2.1. Digital Tools

Nowadays, digital tools are the backbone of communication between an initiative and its target audience. **BIMprove** has devoted significant efforts towards its digital tools, especially social media, not only for exposing its outcomes to the target groups, but also **for creating a community around the project** interested in Digital Twins, Technology and Construction therefore establishing

BIMprove as a “**recognised**” brand where people can visit or follow to find out news about these domains.

Establishing BIMprove as a brand and building a community of followers around it gives us the opportunity to capitalise on the second half of the project where dissemination of our results and outcomes is a priority.

2.2.1.1 Project Website

BIMprove website is our main gateway. It includes all relevant information about the project and news related to our activities.

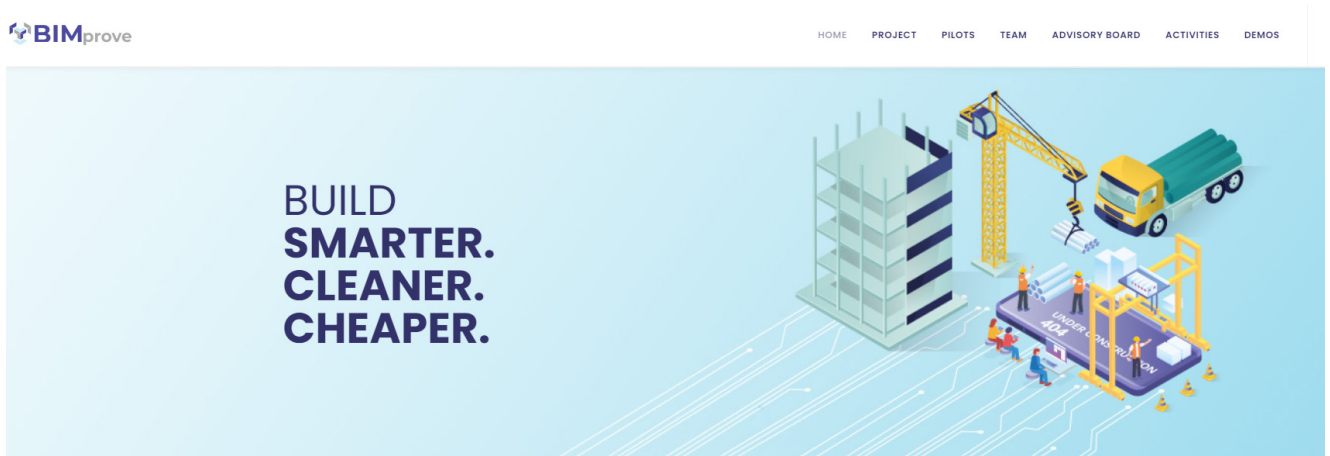


Figure 2: BIMprove Website

Since its first day of operation (end of M02), it has attracted **1422 new users** who have launched **2428 visits** while viewed over **5831 pages**. Given the nature of our project and the limited audience who might be interested to what we do, the metrics are acceptable.

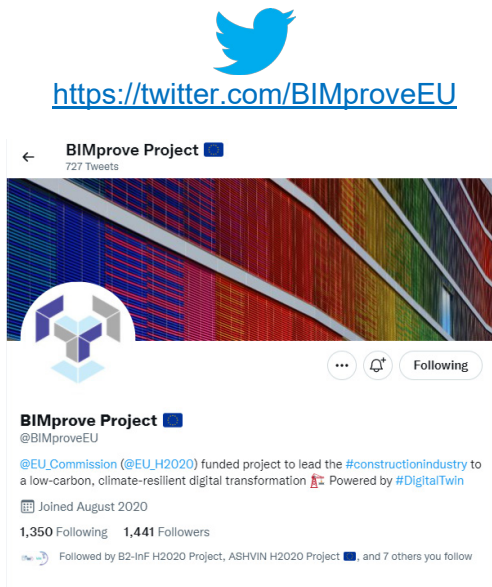
Country	New Users
	1,422 % of Total: 100.00% (1,422)
1. Norway	169
2. Italy	143
3. Spain	142
4. Switzerland	123
5. Germany	116
6. United States	89
7. China	72
8. France	67
9. United Kingdom	60
10. Greece	52

Figure 3: BIMprove Website New Users

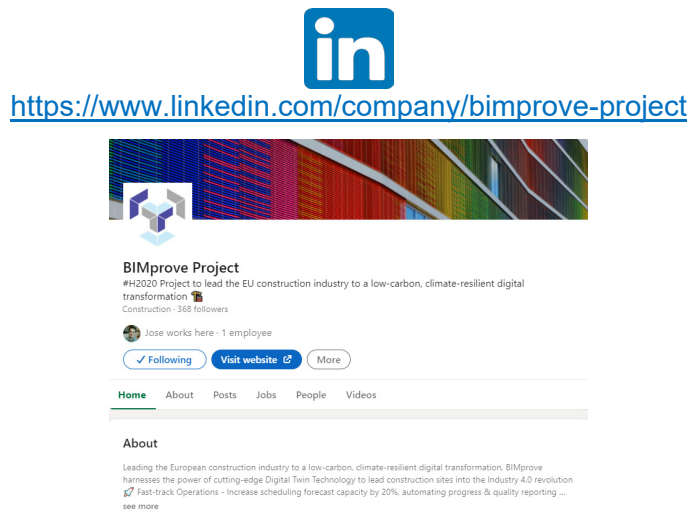
D4.3 Dissemination and Communication Interim Report

2.2.1.2 Social Media

BIMprove’s Social Media accounts are the backbone of our everyday communication. Both our Social Media channels (Twitter and LinkedIn) have almost **2000 followers** and **6000 monthly impressions** since the day that were launched (M03).



1471 Followers
55k Impressions

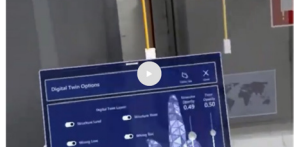



390 Followers
40k Impressions


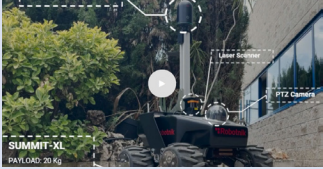

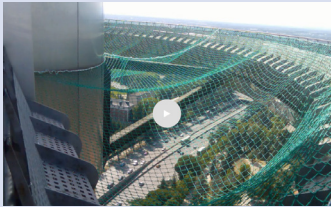


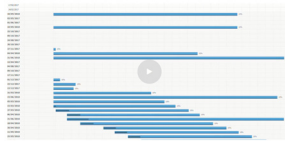
2.2.1.3 YouTube Channel

Since M10, we have created our [YouTube Channel](#) that we use to upload and share our own videos of our demonstration technologies. We have created and shared **10 videos** that have attracted **750 views** so far. All our videos are also available through our [Demonstrators Page](#) on our Website.

Table 1: YouTube Public Videos

Title	Views	Screenshot
Augmented Reality (AR) visualisation of BIM Model	316	
Multi-User Virtual Reality	58	



Ground Robot BIMprove system integration and operation	38	
Leica BLK 360 Point-clouds scans	57	
Data-capturing drones	30	
Detection of safety structures and untidy places in images	29	
Mapping point clouds to IFC-elements	52	
BIM@Vehicle: First Version of the UI	86	
Schedule import and view	29	
Revision change visualisation	55	

2.2.1.4 Online Repository (ZENODO)

BIMprove project has been respecting and supporting the **Open Access principle** from day one. Open Access helps other projects and initiatives to build upon previous research results, improving their overall quality, encourages collaboration while avoiding duplication and the wasting

of resources. It speeds up innovation, and faster progress in the market translates to faster growth. Lastly, everyone in the society is involved, which brings about more transparency of the scientific process.

For that reason, we have released **BIMprove's [Open Access Repository](#)** through **ZENODO**, the **OpenAIRE** repository hosted by **CERN**. So far, our online repository has **1240 unique online views** and **1015 downloads** of our public deliverables.

2.2.2. Key Collaborations & Press Releases

2.2.2.1 *BIMprove & LC-008-EEB funded projects*

All four **LC-008-EEB** funded projects **BIMprove**, **COGITO**, **ASHVIN** and **BIM2TWIN**, agreed on joining forces for **raising awareness around Digital Building Twins** and its impact in the construction industry. Their primary aim is to share knowledge, experiences and research outcomes with other stakeholders and communities around the EU and beyond, via online communication like webinars, newsletters, social media channels and scientific or technical articles. A full press release is available through our [official website](#). This collaboration has already led to some joint communication initiatives (such as the organisation of a joint workshop at **Sustainable Places 2021**) while foresees to implement more activities around communication and standardisation.

2.2.2.2 *BIMprove & StandICT.eu2023 project*

BIMprove has signed a MoU with **StandICT.eu2023** project for promoting an open innovation approach in the standardization of Digital Twin Technologies. Driving digital twin technology and digitization in construction and building management is challenging, exciting, but also feasible with Open BIM. For this to succeed we need to speak the same language – and that is standards. The cooperation between **BIMprove** and StandICT is an important milestone to drive and develop this unified language. You can read the full announcement and our press release through our [official website](#).

2.2.2.3 *Official Press Release about project start*

BIMprove consortium has issued a joint press release to announce the official starting date of our project. That press release was communicated through the project's official social media and was sent to various stakeholders including partners' networks and EU wide portals (such as EU Build UP). This press release can be read online through our [public repository](#).

2.2.3. Online Articles & Newsletters

During the first half of the project, BIMprove has released **25 online articles** and **2 newsletters**. Our online articles serve two-way purpose: communicate to our target groups any recent development we have made (and can be publicly announced) and disseminate key knowledge with specific target

D4.3 Dissemination and Communication Interim Report

groups. On the other hand, newsletters act as teasers to our work and summarise our main achievements.

2.2.3.1 Online Articles

Table 2: Online Articles

Title	Where
BIMprove H2020 Project: Disrupting the Construction Industry	BUILD UP
BIMprove project	BUILD UP
BIMprove – Safe and efficient construction sites	CATENDA Website
New Consortium to lead the European construction industry to a low-carbon, climate-resilient digital transformation with Digital Twin Tech	CORDIS
BIMprove - Improving Building Information Modelling by Realtime Tracing of Construction Processes	ResearchGate
Improving Building Information Modelling by Real Time Tracing of Construction Processes	ROBOTNIK Website
BIMprove – Build Smarter. Cleaner. Cheaper.	ZHAW Website
The Digital Twin in BIMprove: an integrated probabilistic simulation	BIMprove Website
Business Logic of Digital Twin in BIMprove	BIMprove Website
Risk detection methodology for reducing accidents at construction sites!	BIMprove Website
Parameters to be monitored in construction sites, for reducing risks	BIMprove Website
BIMprove and Human-robot interaction	BIMprove Website
BIMprove and Usability	BIMprove Website
User Experience (UX) in BIMprove	BIMprove Website
The evolution of Digital Technologies in AECO industries	BIMprove Website
The BIMprove data architecture	BIMprove Website
Information sharing and data exchange in the AECO sector: BIMprove's approach	BIMprove Website
Usability and UX in mobile and XR applications	BIMprove Website
BIMprove as a major contributor towards using real-time digital twins in the AECO sector	BIMprove Website
Digital twins in the AECO sector	BIMprove Website
Requirements analysis and engineering in the AECO sector	BIMprove Website
Computer Vision Model Creation	BIMprove Website
Risk ontology for the construction industry	BIMprove Website
BIMprove's Risk Database	BIMprove Website



2.2.3.2 Newsletters

2.2.3.2.1 BIMprove's 1st Newsletter

Our 1st newsletter has been released in **June 2021**. It has been **distributed directly to 32 registered users**, but has been disseminated through our social media as well. Overall, our first newsletter was read online by **112 people** and has been **downloaded 13 times**. It is publicly available through our [website](#).

2.2.3.2.2 BIMprove's 2nd Newsletter

Similar to the above, our 2nd newsletter has been released in **December 2021**. It has been **distributed directly to 41 registered users**, but has been disseminated through our social media as well. Overall, our second newsletter was read online by **157 people** and has been **downloaded 19 times**. It is publicly available through our [website](#).

2.2.4. Technical & Scientific (Peer Reviewed Publications and Conferences)

2.2.4.1 Technical Publications

Our main technical publication for this first half of the project was the **White Paper on Digital Twins and Data Integration in the AECO Sector**. This White Paper describes a proposal for a technology concept that will open the door to greater digitalisation within the construction sector, the core of which is a digital twin associated with a given building under construction. The proposal addresses the management of the highly heterogeneous environment inherent in the construction industry, and during the construction process in particular.

The Whitepaper is available as a [pdf version](#) (for download) and as a [Flipbook](#) and has been promoted heavily through our social media. Even though we do not have metrics for the Flipbook version, the pdf version has **been downloaded 214 times** and **read online 132 times**.

2.2.4.2 Scientific Conferences & Publications

2.2.4.2.1 BIMprove at EUROVR 2020

The **BIMprove** consortium is proud to have participated to the [EuroVR 2020](#). Our partners [Fraunhofer Institute for Industrial Engineering IAO](#) and [VTT](#) presented their innovative work related to **Multi User XR for Construction**, that takes place within our project. The 17th EuroVR International Conference – EuroVR 2020 – took place on **25-27 November 2020** in Valencia, Spain. The conference followed a series of successful European VR/AR conferences taking place since 2004 and known as INTUITION, JVRC and recently EuroVR (Bemen 2014, Lecco 2015, Athens 2016, Laval 2017, London 2018, and Tallinn 2019). The Immersive Neurotechnologies Lab

(LabLENI) of the Polytechnic University of Valencia (UPV), Spain, is organizing the 2020 edition of this conference.

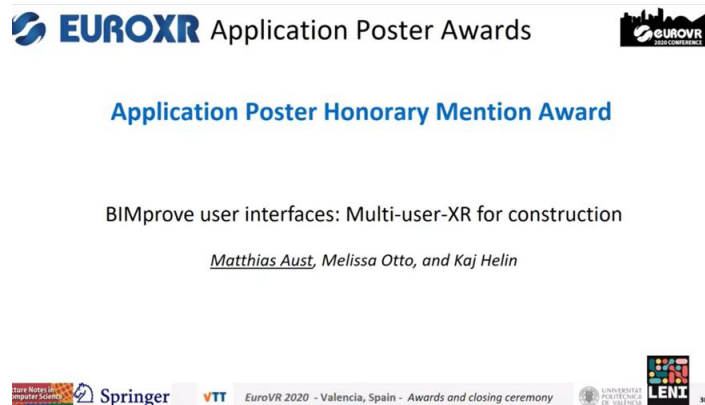


Figure 4: EuroXR 2021

The presented poster entitled “**BIMprove User Interfaces: Multi-User-XR for Construction**”, introduces the idea of a multi-user, multi-device XR-system to be set up at a construction site, for both co-located and remote used and is available through our [public repository](#).

2.2.4.2.2 BIMprove at EUROXR 2021

BIMprove project has participated in the **18th EuroXR** conference that took place in **Milan** (virtually), from the 24th to the 26th of November 2021, and was organized by **CNR-STIIMA**, to support the competitiveness of the manufacturing sector through the innovation of factories and their production, enhancing human knowledge and innovation capacity.

BIMprove has presented the following two abstracts:

- [XR Based GUI Concept for BIM Digital Twin Data Visualization](#)

This extended abstract introduces the eXtended Reality (XR) based graphical user interface (GUI) concept for the construction of Digital Twin Model. The abstract also describes Augmented Reality (AR) tool called BIM@Construction, which is part of GUI concepts and visualizes digital twin data on a construction site. This abstract can be accessed through our [public repository](#).

- [Multi-User-XR for Digital Twin Data in Construction](#)

This extended abstract describes a multi-user-VR-system (later multi-user-XR) developed within the European Commission funded H2020 project called "BIMprove - Improving Building Information Modelling by Realtime Tracing of Construction Processes" (BIMprove, 2021). It is an update on last year's EuroVR application track poster "BIMprove User Interfaces: Multi-User-XR for construction". This abstract can be accessed through our [public repository](#).

D4.3 Dissemination and Communication Interim Report

2.2.4.2.3 2021 IEEE 29th International Requirements Engineering Conference (RE)

BIMprove partners Zurich University of Applied Sciences (ZHAW) and Catenda have presented an approach and a tool for collecting AECO-specific software requirements with the aim to foster reuse and leverage domain knowledge. Their scientific paper, **RASAECO: Requirements Analysis of Software for the AECO Industry**, has been published in the [Conference proceedings](#) while the source code for the tool can be found in our [public repository](#).

2.2.5. Events, Conferences & Workshops

The first 18 months of the project, **BIMprove** has participated in a number of scientific and technical events (not peer reviewed), presenting our project results and views related to the future of Digital Twins in Construction. Overall, we have participated and presented our work in **6 (not peer reviewed) events** however project representatives have participated in more events for networking purposes.

2.2.5.1 IEA HPT IoT Annex meeting

On **21/10/2020**, our project coordinator **SINTEF** gave a first overall presentation about the project and its intended activities in the IEA HPT IoT Annex meeting. That presentation took place in a small audience of 19 people and its intention was to provide an early overview of our a project to a short but influential group of people. The project was very immature so no outcomes were presented, just an overview of the project.

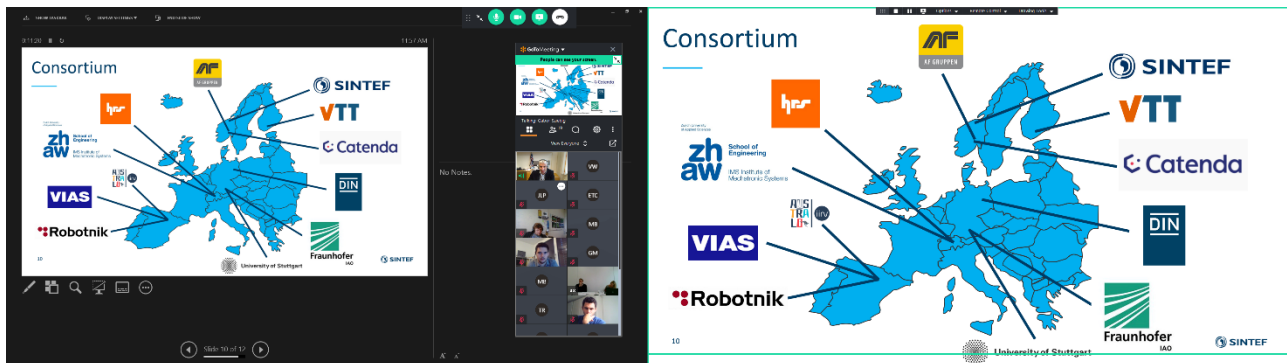


Figure 5: IEA HPT IoT Annex meeting

2.2.5.2 BIMprove project at BDTIC 2021

On **27th of May 2021**, BIMprove participated in the first international event dedicated to **Building Digital Twins (BDTIC)** that was organised by the [Building Digital Twin Association](#). 17 speakers talked about new knowledge about BDT. The collaboration of world experts, who offered never-before-seen presentations on the situation of Building Digital Twin from NASA till the more advanced on-going European projects participated in the two sessions and the two keynote lectures. **The event has been viewed from over 500 people.**



Figure 6: BDTIC

On behalf of **BIMprove**, our project coordinator [SINTEF Manufacturing](#) provided a presentation on “**Changing the rules of the construction: dynamic BIM models with DigitalTwin Technology**”. The presentation can be found [online here](#).

2.2.5.3 BIMprove as part of the “Digital twins and integration of AI in construction industry” webinar

On **July 15th 2021**, [Dr Gabor Sziebig](#) from [SINTEF Manufacturing](#), represented **BIMprove**, at the “**Digital twins and integration of AI in construction industry**” webinar. The webinar was organized by the [Artificial Intelligence Research, Development and Innovation Network for Sustainable Cities](#) and was funded by the [Royal Academy of Engineering](#) under the [Frontiers Champion](#) award.



Figure 7: Digital twins and integration of AI in construction industry

Dr Sziebig presented **BIMprove**’s objectives, technologies and innovations to a wide audience while the concept of digital twins and the integration of artificial intelligence in construction industry were discussed. You can watch the official recording of the event [from here](#).

2.2.5.4 BIMprove at Sustainable Places 2021

BIMprove joined forces with [COGITO](#), [BIM2TWIN](#) and [ASHVIN](#) and organized a 120-minute hybrid workshop at the 9th annual edition of [Sustainable Places \(SP2021\)](#) on “[Digital Twin for the](#)

D4.3 Dissemination and Communication Interim Report

Construction Phase“. The hybrid workshop took place on the **30th of September 2021**, discussing about the challenges of creating digital twin for the construction.

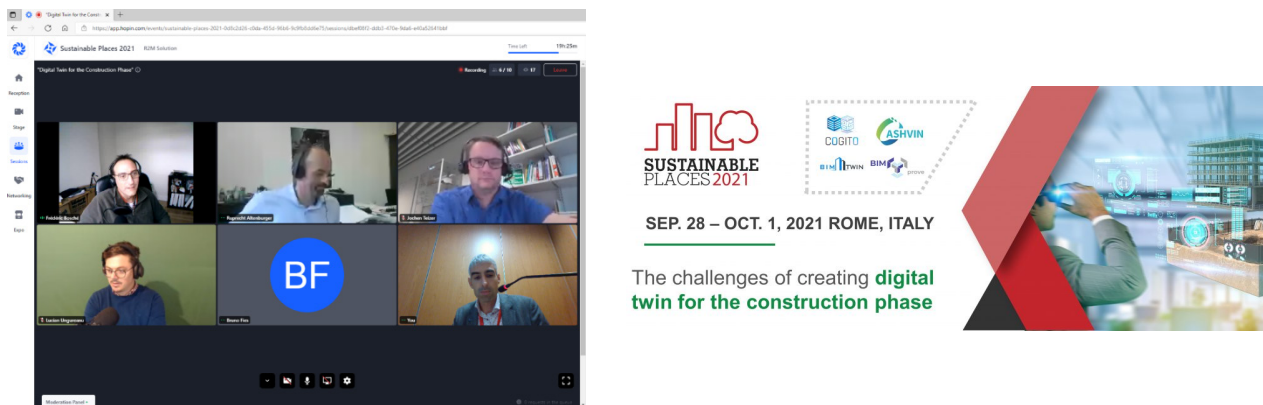


Figure 8: SP2021

The workshop was chaired by **Gabor Sziebig from SINTEF**, who is the coordinator of **BIMprove** project, while an opening statement was made by Ms Victoria Leroy from European Health and Digital Executive Agency (HaDEA).

2.2.5.5 BIMprove at CIB W78 - LDAC 2021

BIMprove project participated in the joint conference CIB W78 – LDAC 2021 that took place in Luxembourg at **11-15 October 2021**. Our partner **HRS set up a BIMprove corner**, highlighting our project's recent development and goals and attracted interest on our activities. Our coordinator, SINTEF, participated in the “Linking EU H2020 projects on digitization in the construction and maintenance industrys” workshop, together with our H2020 sister projects ASHVIN, COGITO and BIM2TWIN and representatives from BIM4Ren, BIM-SPEED, BIMERR, BIM4EEB, SPHERE and CBIM, where the need of aligning effort when developing ontologies has been highlighted.



Figure 9: CIB W78 - LDAC 2021

D4.3 Dissemination and Communication Interim Report

2.2.5.6 BIMprove at Big Data Value Forum (EBDVF)

BIMprove project participated in the [European Big Data Value Forum 2021](#) that took place during **November 29 - December 3, 2021** | Ljubljana + Online, Slovenia. The European Big Data Value Forum (EBDVF) is the flagship event of the European Big Data and Data-Driven AI Research and Innovation community organised by the BDVA and the European Commission (DG CNECT). The EBDVF brings together industry professionals, business developers, researchers and policy-makers from all over Europe and other regions of the world to advance policy actions in the areas of Data and AI. **BIMprove** presented itself in the [Data Driven Intelligent Digital Twins](#) session together with projects COGNITWIN, ILIAD, COGNIPLANT, FACTLOG and SIRIUS followed by a discussion on digital twin commonalities and differences for various domains. **The event has been viewed from 426 participants.**



Figure 10: European Big Data Value Forum 2021

2.2.5.7 Other Events (Networking)

In the context of community and networking, **BIMprove** partners have also attended a number of events and webinars to which, even though **BIMprove** is not directly presented, we participate in the discussions for gaining useful knowledge that may be infused to the project and for networking purposes with other organisations and individuals. This “resource free” activity brings considerable value to the project.

Table 3: Other Events

Title	Date	BIMprove Activity
GAIA-X	18-19/11/2020	Networking / Event
BIM Speed Industry Day	26/11/2020	Networking / Workshop
BIM4Ren workshop	27/11/2020	Networking / Workshop

D4.3 Dissemination and Communication Interim Report

BIM supports digitalization of standards for the Construction sector	15/02/2021	Networking
Digital Twin for Cities: Initiatives from around the world	10/03/2021	Networking, Knowledge Transfer
BIM FORUM 2020	26/08/2020	Networking, Knowledge Transfer
buildingSMART Norge faglig onsdag #12 (In Norwegian)	17-25/03/2021	Networking, Knowledge Transfer
From BIM to Twin	15/12/2020	Networking, Knowledge Transfer
The buildingSMART International Virtual Summit - 2020	26/10 – 06/11/200	Networking, Knowledge Transfer

2.3. Activities Matrix

As already mentioned in previous subsections, most communication and dissemination activities served a two-fold purpose. The matrix below summarises under which phase (either communication or dissemination) each group of activities falls. It also provides the stakeholder target groups) that each activity was targeted for. It is important to mention that this matrix depicts only the activities that took place during these first 18 months and does not refer to future activities.

Activity	Communication			Dissemination			Stakeholders
	Plan & revisit	Early bird Communication	Targeted Communication	Analysis	Increase impact	Adoption	
Digital Tools	✓	✓	✓	✓	✓	✗	All
Key Collaborations	✗	✓	✓	✗	✓	✗	Construction Industry, H2020 Funded Projects, Digital Twin Tech Providers
Online Articles & Newsletters	✗	✓	✓	✗	✓	✓	All
Publications	✗	✓	✓	✗	✓	✓	Construction Industry, H2020 Funded Projects, Policy Makers, Digital Twin Tech Providers, Digital Transformation Advocates
Events, Conferences & Workshops	✗	✓	✓	✗	✓	✗	Construction Industry, H2020 Funded Projects, Digital Twin Tech Providers, Digital Transformation Advocates



2.3.1. KPIS

For **BIMprove** it is very important to keep tracking of our KPIs. Even though some KPIs were quite optimistic and affected by the recent COVID-19 challenges, we managed to remain on track. During the second half of the project, we will emphasise on dissemination related KPIs (especially around scientific publications and conferences) while putting more effort on participating in additional scientific events. As the project becomes more mature and can reveal more tangible and presentable results, our efforts will lean towards that direction.

Table 4: KPIs

Measure	Indicator	Target	Where we stand
Publications	Peer-reviewed scientific research publications in international journals	10	0
	Peer-reviewed publications and presentations in international conferences	10	4
	Scientific and Technical Publications (e.g., articles, blog posts) (yearly)	20+	16 (24 in total)
Events	No. of scientific events participated	30+	8
	No. of non-scientific events participated	10+	10
Project Website	No. of visitors (monthly average)	1000+	240
Printed Material	No. of hard copies (e.g. flyers) distributed	2000+	50
Social Media	Size of the online community (by the end of the project)	3000+	1861
	No. of impressions (monthly average)	500+	56k (96k in total)
Videos	No. of videos produced	3	10
	No. of visits (by the end of the project)	3000+	750
Newsletters	No. of newsletters contributed/released	9	2

3. AGILE STAKEHOLDER MANAGEMENT STRATEGY: EVALUATION OF THE STRATEGY

In parallel with the communication and dissemination activities, **BIMprove** consortium applied its novel approach on agile stakeholder management. A strategy that has been described in in [D4.1 BIMprove Impact Master Plan](#) and aims to establish a two-way information stream with specific organisations and initiatives, in order to not only inform them about our project, but also receive feedback, opinions and insights to be infused in the project’s future work. The framework follows an iterative implementation structure based on **Sprints**, time-boxes of 6 months where the main goal is to incrementally increase and reinforce the engagement of the stakeholders with the initiative.

During the first 18 Months of the project, **BIMprove** consortium has implemented 3 Sprints. Each Sprint had a specific focus on some organisations and stakeholder groups. For strategic purposes and because of the nature of this current deliverable (public) certain information cannot be disclosed. However, a synopsis of each Sprint with information regarding specific target groups, nature of interactions and key learnings are presented in the following tables.

Table 5: Sprint Q1

Sprint Q1 (M01-M06)		
Phase 1 Scouting	Phase 2 Interaction	Phase 3 Learning
H2020 Funded Projects • LC-EEB-02-2018	Participation and Networking with: <ul style="list-style-type: none"> • BIM Speed - Industry Day • BIM4Ren - workshop 	<ul style="list-style-type: none"> • Creating synergies with other H2020 projects that were funded by previous calls, is quite valuable as they might have performed work that could be important for recently funded projects • Have an early start on standardisation with key organisations becomes a valuable guideline for future activities. • It’s very important to find the right persons from organisations and associations you wish to contact.
Digital Twin Tech Providers	Participation and Networking with: <ul style="list-style-type: none"> • CEN/CENELC - BIM supports digitalization of standards for the Construction sector 	

Table 6: Sprint Q2

Sprint Q2 (M07-M12)		
Phase 1 Scouting	Phase 2 Interaction	Phase 3 Learning
H2020 Funded Projects • LC-EEB-08-2020 • Standardisation related initiatives	<ul style="list-style-type: none"> • Formulate a cluster with ASHVIN, COGITO, BIM2TWIN • Sign MoU with StandICT 	<ul style="list-style-type: none"> • Aligning efforts with initiatives funded under the same call in critical – it amplifies the influence of all projects and magnifies available resources.



D4.3 Dissemination and Communication Interim Report

Digital Twin Tech Providers	<p>Invite member to our Advisory Board from:</p> <ul style="list-style-type: none"> • Dublin City University • TU Dortmund • Monash University • University of Central Lancashire 	<ul style="list-style-type: none"> • Establish an Advisory Board with high-profile people, with extensive know how on project's topic of interest allow a valuable input stream of knowledge. • Make sure what kind of IP you expose to the community. • By involving ETPs and other influential associations and industrial players and end users into a wider project's ecosystem allows the project to receive valuable insights and feedback. Presentations and unstructured discussions provided the project with fruitful insights that assisted us on better shaping our concept and make it more attractive and valuable to them.
Construction Industry Digital Transformation Advocates	<p>Invite member to our Advisory Board from:</p> <ul style="list-style-type: none"> • ManuFuture-EU ETP • EU-Robotics Aisbl ETP • buildingSMART Switzerland <p>Present our project to industrial players:</p> <ul style="list-style-type: none"> • IBM • Shirley Parsons • NCC • CERVVAL • PlanB • SBP 	<ul style="list-style-type: none"> • One-to-one discussion with key players are a good way for collecting feedback. • Make sure that the project is mature enough when discussion with potential end users.

Table 7: Sprint Q3

Sprint Q3 (M13-M18)		
Phase 1 Scouting	Phase 2 Interaction	Phase 3 Learning
<p>H2020 Funded Projects</p> <ul style="list-style-type: none"> • LC-EEB-02-2018 • LC-EEB-08-2020 	<ul style="list-style-type: none"> • Host a joint workshop with COGITO, BIM2TWIN and ASHVIN at the 9th annual edition of Sustainable Places (SP2021) on "Digital Twin for the Construction Phase". • Participate in a joint workshops with BIM4Ren, BIM-SPEED, BIMERR, BIM4EEB, SPHERE at CIB W78 – LDAC 2021 	<ul style="list-style-type: none"> • Implementing joint initiatives and activities with other projects give the opportunity to actively learn from each other and gives room for new ideas and concepts to be generated and exchanged on the fly. • Exposing project outcomes to end users through a physical interaction gives the opportunity to gather feedback and trigger interest. • Having an exploitation plan (or market uptake plan/business model) in place, is crucial when you talk with end users as they could be interested on ways of using your solution.
Construction Industry Digital Twin Tech Providers	Set up a BIMprove corner to interact with Construction Industry Players and Digital Twin Tech Providers	

Our first 3 Sprints have been quite successful as we managed to interact and gather feedback from a number of organisations and initiatives both in a structured and unstructured way. Even though most of the feedback we received is confidential, any valuable insight that we felt as useful and relevant to our work has been infused to our current and future work and will be reflected in our outcomes. In the second half of the project, **BIMprove** will continue working on interacting with more initiatives while emphasising to stakeholder that have not been approached yet, such as policy makers. In addition, effort will be made for increasing interaction with industrial players and collect their feedback through structures questionnaires and polls.



4. CONCLUSIONS & NEXT STEPS

4.1. General Conclusions

The current deliverable foresaw to update the dissemination and communication strategy, and to present the activities that took place during the first 18 months of the project. In parallel, it aims to present a short but solid overview of the agile stakeholder management strategy and extract some valuable insights from it. Adding to the above, a discussion on all key quantified targets and Key Performance Indicators (KPI's), which constitute the means of evaluation and assessment for the performed activities, was presented.

In conclusion, during the first 18 months of the project, several major anticipated activities were implemented according to the plan, excluding the deviations caused by the COVID-19 crisis, which had an impact in the execution of some physical events. However, the COVID-19 challenge gave us the opportunity to invest more on digital and online means, activities and tools and capitalize on the opportunity of more digital events (such as workshops).

Finally, this report will be updated in month 36 of the project, which will include the updated dissemination and communication strategy, the description and evaluation of actions from month 19 to month 36 and any sustainability measures we might foresee for our most successful communication tools.

4.2. The road ahead

The coming 18 months will still be a challenge as the overall environment is still unstable. However, we foresee that a number of opportunities will rise therefore, all **BIMprove** partners are committed to stay focused on communicating and disseminating the most important outputs of our project.

As the project matures and produces even more concrete results, emphasis will be given in dissemination (scientific) activities. Publishing scientific results and presenting them in scientific conferences will be in the forefront of our activities, while continuing capitalizing on our digital channels. Furthermore, we foresee to increase our interactions with other funded projects, initiatives and associations in order to establish a solid network of key actors to which we can expose and present our results.

Obviously, as the project evolves all our communication material will evolve in parallel. Updated brochures and videos will be produced to reflect project's maturity level, and both website and newsletters will enter a new phase expected to reach a wider and more targeted audience.

Next Steps

Continue Doing

- Produce & Communication Technical Articles
- Participate in External Events (non scientific)
- Create & Publish More Videos
- Increase interaction with the community
- Publish Content through Social Media
- Publish & Contribute to more Newsletters



Focus Efforts

- Scientific team to participate in scientific conferences & journals
- Host technical webinars (open)
- Increase interactions with Potential Customers/Users
- Emphasise on Dissemination
- Create Targeted Communication Material

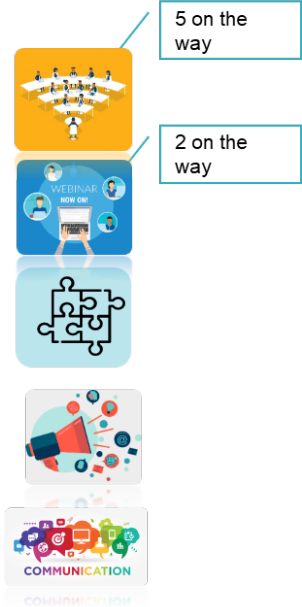


Figure 11: Next Steps (in a nutshell)