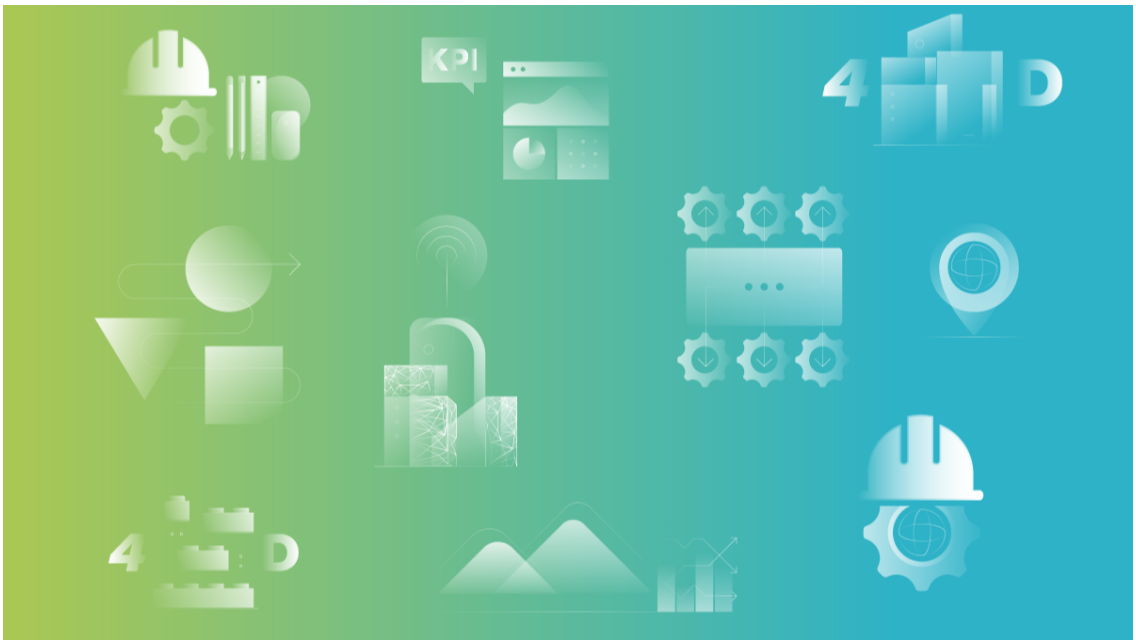
ASHVIN's Newsletter #4

November 2022

We are happy to get back to you with some fresh updates from the ASHVIN project!

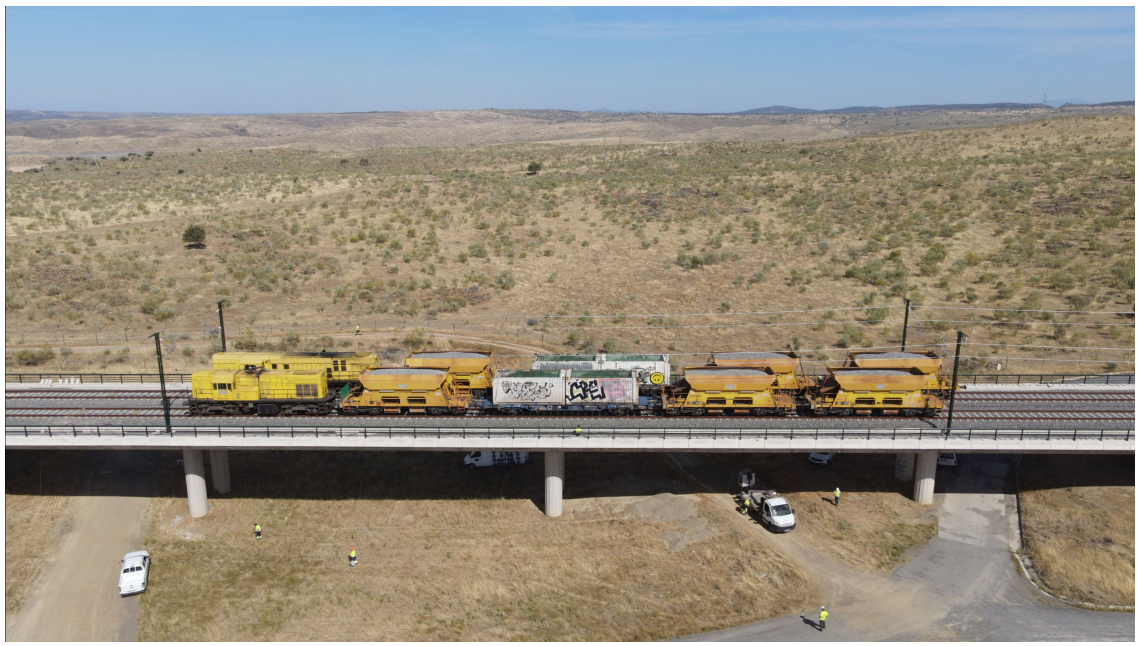
In October, ASHVIN launched its final project year publishing a great set of tangible results from the technical development and from the different demonstration sites. As you know, the ASHVIN project is a European Research and Innovation Initiative developing a technology solution using digital twins to transform the construction industry to a safer, greener and more cost-effective reality. Our aim is to have the first version of the ASHVIN solution validated and ready to be exploited by September 2023!



9 New Technical Deliverables submitted in September 2022

of technical deliverables defining essentially the methodologies and technologies implemented to the design for productivity and safety, data fusion for real time monitoring as well as to control in real-time simulations of construction. Now, 18 public deliverables are published on the ASHVIN website.

Access all ASHVIN deliverables on Zenodo

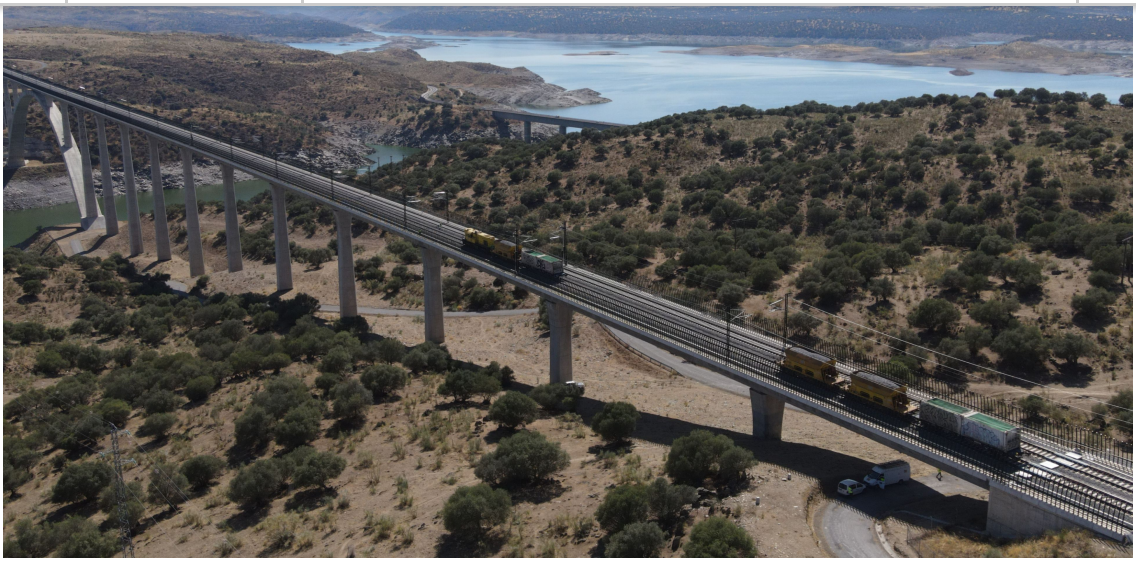


Demonstration of the ASHVIN Digital Twin toolkit

The final project year will focus on deploying the ASHVIN digital twin toolkit on the 10 demonstration sites, and their impact on safety and cost reduction. In tandem, better construction project management will be assessed.

The demo site #1 “High-speed Railways in Spain” is one of the first pilot sites where all measurements are finalised. The objective is to establish requirements, procedures and for the generation of the most realistic virtual replica of the physical railway bridges, which eases the process of bridge-load testing and the maintenance of bridges for their entire lifecycle. Our partner UPC leads this research part.

Read more about the Demo Site 1



Towards a Global ICT Standard in Digital Twins

One of our main objectives is to contribute in developing a global ICT standard that supports the uptake of the digital twin technologies in the construction industry. ICT standards make technologies more reliable, enable interoperability of solutions, and cut costs for technology development. Our partner Austrian Standards International (ASI) is leading the standardization task with the aim to submit a new work item proposal (NWIP) to a Standardisation Organization (SDO) related to the deployment of digital twins at construction sites. Moreover, a new standard on digital bridge load testing could be inspired from the demo site #1 "High-speed Railways in Spain".

Read more

Next steps - Demonstration, Dissemination and Exploitation

finalising the exploitation strategy of the ASHVIN solution.

Along with the piloting of the ASHVIN toolkit and the digital twin platform at the 10 demonstration sites, the technical partners (TUB, UPC, DTT, EUR and CERTH) will create BuildingSmart Use Cases aiming to illustrate the targeted use and the benefits of each ASHVIN tool.

The ASHVIN Advisory Board will be engaged with one-to-one interviews to gather their feedback and comments on the ASHVIN technology.

Read more about the ASHVIN's focus for the final year

ASHVIN's Dissemination

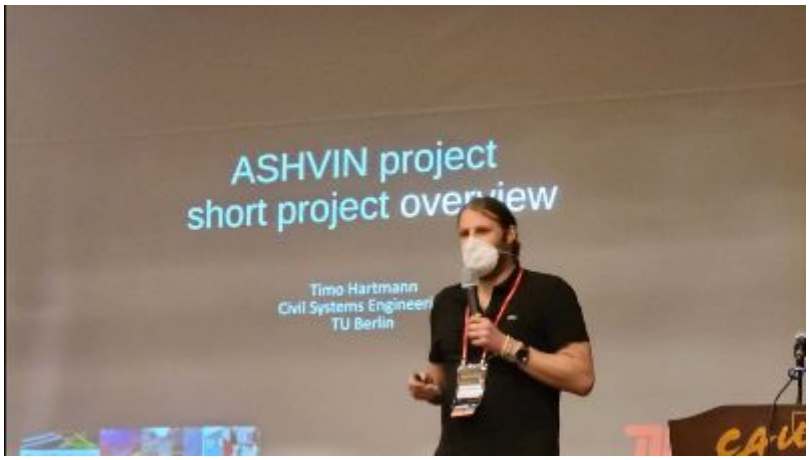
Since June 2022, ASHVIN has been presented in several international events related to construction building and technologies. The ASHVIN team has published project results in 4 papers in scientific conferences, joined 6 different scientific conferences and 6 stakeholder events.

Conference publications

The 4 conference papers present the research behind the development of the ASHVIN technology tools and the demonstration sites where these tools are piloted.

Read more about the publications

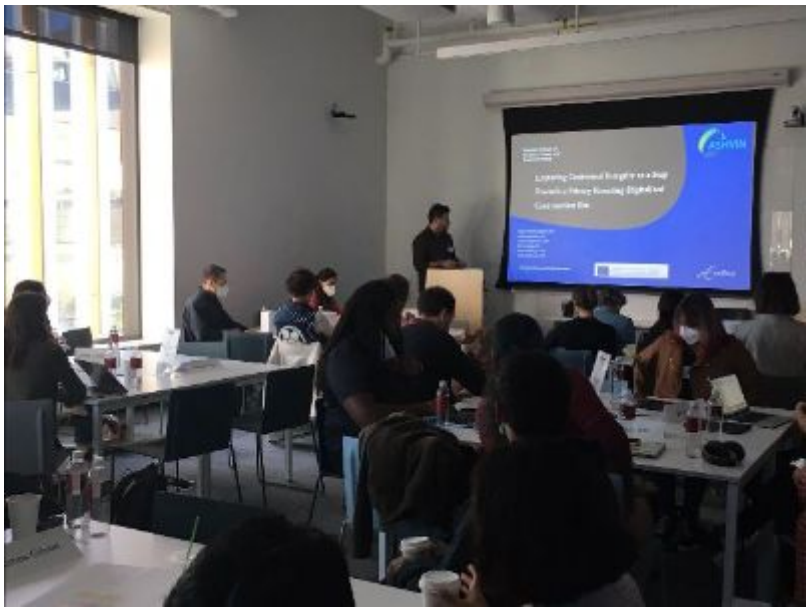
Events Featured



CONVR22 Conference - Seoul, Korea

Seoul, South-Korea. This edition of the Conference on Construction Applications of Virtual Reality (CONVR2022) was dedicated to "The future of construction in the context of digital transformation and decarbonization". Prof. Hartmann was one of the keynote speakers in the conference with the keynote entitled "Engineering the natural and built environment: From today's knowledge into future visions".

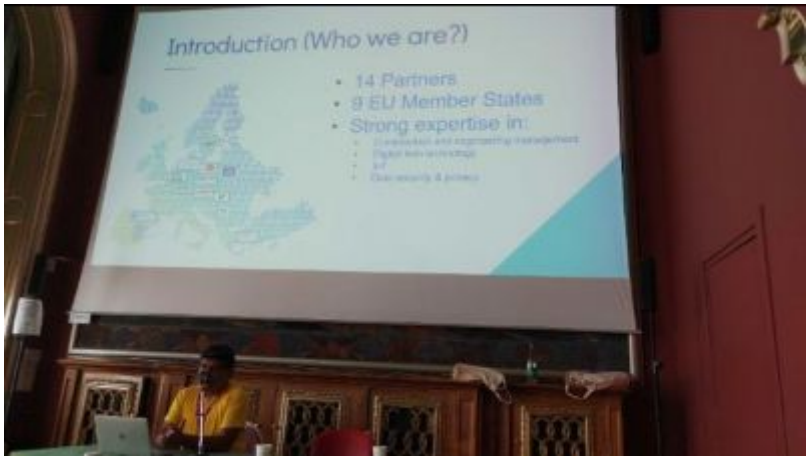
Read more



Contextual Integrity Symposium - New York, USA

On the 22nd and 23rd of September 2022, Jorge Pereira Campos from ASHVIN partner Erasmus University Rotterdam, presented ASHVIN Project's approach in preserving privacy in digitalized constructions sites at the 4th Annual Symposium on Applications of Contextual Integrity organised at Cornell University in New York (United States).

Read more



Sustainable Places 2022 - Nice, France

workshop titled "Ontologies in Digital Twin: Methodology, Lessons Learned and Practical Approach", which was co-organized by the Building Digital Twin Association (BDTA) and 6 EU-funded projects that develop a construction-phase digital-twin data model, and their ontological representation, capable of capturing all data requirements for the digital representation of building and/or infrastructure construction sites.

Read more

International Colloquium SDSS 2022 - Aveiro, Portugal

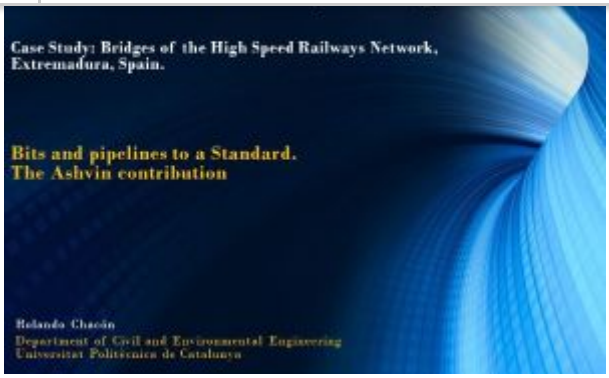
On the 15th of September 2022, Rolando Chacon, from ASHVIN partner organisation UPC (Universitat Politècnica de Catalunya), represented ASHVIN at the International Colloquium on Stability and Ductility of Steel Structures 20222, SDSS2022. In this conference, he presented two papers related to two ASHVIN Demonstration Sites (Demo #7 Bridges in highway network in Spain and Demo #9 Sport Stadium Roof Structure in Germany)

Read more

ISARC 2022 - Bogota, Colombia

On the 14th of July 2022, UPC represented ASHVIN at the ISARC 2022, International Symposium on Automation and Robotics in Construction organized in Bogota, Colombia. The UPC team, led by Associate Professor Rolando Chacon, presented two papers in this event.

Read more

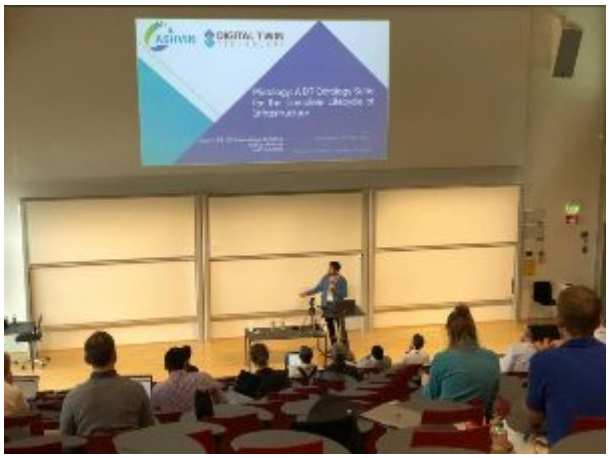


IABMAS 2022 - Barcelona, Spain

On the 12th of July 2022, UPC presented the ASHVIN research results at the IABMAS 2022 conference organised in Barcelona, Spain. This international event on Bridge Maintenance, Safety and Management is directly related to ASHVIN demonstration case #1 "Bridges for High-Speed Railways in Spain). Rolando Chacon, associate Professor at UPC, gave a presentation at the conference entitled "Ground-Based Interferometer radars for load tests of long-span arch bridges. Case study: Almonte and El Tajo Viaducts, Extremadura, Spain".

Moreover, there will be a Special Issue of this conference in the Scientific Journal "Structures and Infrastructure Engineering". This work was selected to be part of this special issue to be published.

Read more



EG-ICE 2022 - Aarhus, Denmark

On the 7th of July 2022, ASHVIN was presented at the EG-ICE: 29th International Workshop on Intelligent Computing in Engineering organized by Aarhus University in Aarhus in Denmark.

The presentation showcasing the research of the ASHVIN project was entitled "Platology: A Digital Twin Ontology Suite for the Complete Lifecycle of Infrastructure" and it was given by Rehan Khan (DTT).

Updates from Sister Projects

ASHVIN, BIMprove, COGITO and BIM2TWIN are the four projects funded under the same call for proposals by the European Commission, and they all are tackling the digital transformation of the construction industry with the usage of Digital Twins. The projects gathered on the 18th of November 22 to draw the collaboration strategy for the final year, including notably a common workshop on the exploitation strategies and organisation of final events.

Read more

New and Related Horizon Europe Projects

Europe funds multiple new and innovative initiatives boosting the European construction industry. ASHVIN supports the new sibling projects!

HumanTech addresses the most important challenges faced by the European construction industry today — making it safer, greener and more efficient. The cutting-edge, human-centred AI technologies it is developing will transform the sector by increasing the safety and well-being of its workers, enhancing circular practices and

REINCARNATE will develop ten innovative solutions on a digital platform to create a greener construction industry. It also explores technical and social means to give new opportunities to buildings, construction products and materials, maximizing their life cycle and determining if they are suitable for reuse. Subscribe to REINCARNATE newsletter

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement **No 958161**.