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Bildungszentren des  
Baugewerbes e.V.

# ARTVET

Augmented Reality  
in Teaching in Construction VET

# Period & Partners

Start of the project: 1<sup>st</sup> of September 2022

End of the project: 28<sup>th</sup> of Februar 2023

Partners:



WESTDEUTSCHER HANDWERKSKAMMERTAG



WEKIT ECS  
Holographic Training Company





## **ARTVET** aims at ...

- deeper insight into chances / limits of Augmented Reality (AR); 3 x 4 hours seminars
- project staff only need to bring with them AR-fit tablet PCs and AR-fit smartphones
- increased knowledge about the technical set-up of devices, the handling of the device in AR-applications, the interface with stationary computers and its data exchange, etc.
- project VET staff will contribute to a survey dealing with pre-requisites for regular VET-staff (i.e. VET-trainers) to apply AR e.g. individual/personal pre-conditions, necessary technical equipment (tablets, AR-glasses, etc.) and support in which VET-content is appropriate for combining it with AR; elaborating this in the phases between the project meetings (from 09/11-2022 + from 12/2022–02/2023)
- establishment of a network of AR-applying VET-centres/organisations

# Path



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- 3 project meetings – Italy, Belgium, Spain
- 2 phases
- 9 project partners
- 6 months project life cycle



# Expected results 1/3

## Kick-off:

- introducing the ARTVET project, its purpose, the objectives, its tight schedule, its expected results
- mutual presentation of partners
- administrative aspects and formal requirements, reporting

## Workshop part at kick-off meeting incorporating the technical and all VET-partners plus WHKT (minimum 4 hours):

- introducing AR (concept, hardware, software, content, application domains, examples – e.g. focus on examples in VET, industrial/workplace training)
- AR history and development
- AR pre-requisites (limitations of hardware and software), interoperability, standards
- demonstration of phone-based AR, AR smart glasses (hands-on experience of simple indicative apps on different devices, experimenting with interaction and control)
- discussing AR in VET / construction (finding out desired case scenarios where AR support is needed, identifying key challenges, identifying possible AR-based solutions to these challenges)



# Expected results 2/3

## 2. International Project Meeting (IPM)

- presentations of phase 1 results and aggregation of main findings; extending team-work

### Workshop of minimum 4 hours as part of the 2. IPM:

- IEEE Augmented Reality Learning Modeling standard – ARLEM (an example of AR content standard)
- discussing data and content formats and standards (interoperability and interfaces between construction and AR, use cases)
- hands-on: build your own AR use case scenario (VET and construction experts designing training or performance augmentation scenarios, individually or in small groups, supervised by AR experts)
- discussion: presenting use case scenarios, feedback by AR experts and by the entire group, highlighting items that can (and those that cannot) be technologically implemented
- hands-on: basics of MirageXR, a holographic training platform - an example for AR software
- hands-on: implement your own AR use case scenario (VET and construction experts implementing their own scenarios in MirageXR, supervised by AR experts)



# Expected results 3/3

## 3. IPM

- presentations of phase 2 results and aggregation of main findings; extending team-work
- overall main findings and conclusions

### Workshop of minimum 3 hours

- digital twins (BIM), Internet of Things and AR-visualization
- holographic Artificial Intelligence (AI) – blending AR with AI
- hands-on: experience sharing (VET and construction experts playing/viewing AR use case scenarios of each other)
- discussion: sharing feedback, reviewing applied solutions, what worked well, what needs to be improved to work better in VET

### Initiating follow up / impact

- merging partners´ individual conclusions about their attitude towards AR in the future; satisfaction with the project results and possibilities to exploit them for VET
- technical partner: resume from "hands-on" experience and hints for improving and/or device relaunches

# Figures



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Budget: 60,000.00 €

- „PMI“: 34,125.00 €
- Travel: 25,875.00 €





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# Contact promoter

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# Funding



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The project is ...



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Thank you !

Any questions?



**BZB** – Wir denken Bildung weiter.