

Visual and textual content re-purposing FOR(4) architecture, Design and virtual reality games

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D8.4

V4Design Report on standardisation, dissemination and collaboration activities v1

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Abstract

D8.4 presents the first version of the project's report on the dissemination, standardisation and collaboration activities. Specifically, it presents the updated dissemination material, and reports on V4Design press releases, newsletters and social networks posts. In addition, the deliverable reports the participation to scientific and commercial events during the first year of the project, the relevant publications in scientific journals and conferences, as well as the updated dissemination targets for the upcoming year. D8.4 also reports the updates of the User Group

including details on the list of participants and their (foreseen) involvement to the project. Finally, the deliverable presents details regarding the collaboration with other research projects and details the planned standardisation activities.

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Executive Summary

D8.4 presents the first version of the project's report on the dissemination, standardisation and collaboration activities.

First, it presents the updates on the website and social media including reports on website traffic and social media analytics. During the first year of the website of V4Design reported more than two thousand page views from Europe, Asia and America. In addition, updated versions of the leaflet and posters have been released, while additional means of dissemination included press releases, regular newsletters and the creation of a promotional video.

Secondly, the deliverable reports the participation to scientific and commercial events during the first year of the project, the relevant publications in scientific journals and conferences, as well as the updated dissemination targets for the upcoming year. Specifically, V4Design was represented in more than 15 relevant events, reported collaboration with more than 10 research projects, while 15 scientific publications were achieved during the first year.

Thirdly, D8.4 reports the updates of the User Group including details on the list of participants and their (foreseen) involvement to the project. During the first year V4Design managed to attract 20 User Group members, while many more are under contact. The involvement of the user group during the second year is expected to be more intense and provide concrete feedback on the evaluation phase.

Finally, the deliverable details the planned standardisation activities.



Abbreviations and Acronyms

AEC Architecture, Engineering and Construction

AR Augmented Reality

BIM Building Information Modelling
CGI Computer-Generated Imagery

DT Digital Technologies

EBU European Broadcasting Union
GIS Geographic Information System

GMF Global Media Forum

ICT Information and Communication Technology

NDA Non-Disclosure Agreement
NLP Natural Language Processing

PUC Pilot Use Case
UG User Group
VFX Visual Effects
VR Virtual Reality
WP Work Package



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1 INTRODUCTION

The objective of D8.4 is to present the dissemination activities and material developed during the first 12 months of the project and the future dissemination plans, as well as the User Group and the standardisation activities.

The targeted readers of the documents are those interested in the V4Design platform, especially architects professionally and academically focused, experts on design software and the various fields of architectural design, architectural studios, as well as autonomous working artists, designers and game developers and game designers, content creators and end-users from gaming companies and experts on the field game creators.

In this context, the deliverable presents the current dissemination material and provides an insight into the web presence of the project by reporting the web traffic and the social media interactions. It also reports the events and the cluster activities that the consortium participated the first year of the V4Design and presents the targets for the next year. D8.4 also includes an update of the User Group (UG) activities and outlines the plan for actively involving the UG members during the rest of the project. Finally, the deliverable presents in detail the standardisation activities that took place during the 1st year.



2 DISSEMINATION STRATEGY

The basic strategy for the V4Design Dissemination was laid out in D8.2 – The Initial Dissemination Plan and Dissemination/Communication materials. It described the general overview of the dissemination strategy including materials foreseen to fulfil the tasks envisioned for a successful turnout.

In summary, the basic principles of the dissemination plan can be defined as follows:

- Raise awareness let others know about the developments in the project
- Inform educate the community
- Engage get input/feedback from the community
- **Promote** "sell" outputs and results

Target audiences

D8.2 stressed the importance of reaching out to the right audiences in order for people to benefit from V4Design. The project team therefore identified the different individuals, groups, and organisations and their specific interests in the project developments and set up the channels and activities accordingly.

The definition of a proper target audience was also taken in to account when choosing members of the user group as well as participants for the user evaluations.

In addition, V4Design knowledge and results was shared and exchanged with other European projects, with the scientific community and with standardisation bodies as these groups were all included in the target audiences.

Key messages

D8.2 also stated the necessity of defining a key message per target audience. This was taken into account when setting up the different channels and is reflected in the choices and messages distributed e.g. on twitter, LinkedIn or through the participation in certain scientific conferences.

Timing of actions

Based on the experience from previous projects and partner's expertise the proper timing of actions was determined for all dissemination activates along the line. In D8.2 the project stated that the conveyed messages of V4Design have to be aligned with the circumstances of the project and the audiences.

For example, it is better to build a strong awareness of the project at the start, while focusing on "selling" achievements towards the end of it. It is also important to think about the communication timetable and requirements of the target audience. For instance, there are periods during the academic year, when it is difficult to reach academic staff (e.g. at the start of the term or during examinations).

This was and will be taken into account when publishing to the blog or reaching out to expert groups for feedback on the work of V4Design. Also messages were sent out several times and through varying channels in order to increase the chances of reaching the target audiences.



2.1 Planned Dissemination Materials

In order to successfully promote the project through conferences, workshops, online channels and other means, a set of dissemination materials were foreseen in the DoA and planned and set up at the beginning of the project. These materials included the following:

- A project website, to be set up in the first three months of the project and to run throughout the full length of V4Design plus two years beyond the project's termination.
- A social presence of V4Design in different social media networks.
- A Communication kit including a flyer, a poster and an overview presentation
- A Fact sheet, containing quick information on the project, useful for info booths at fares and conferences.
- A number of **press releases** on the project's work and progress
- A number of Newsletter editions with news items on V4Design's progress.

All of these items were created during the first year of the project and will be discussed (and linked) in section 3.

2.2 Planned Dissemination Tasks & Events

Part of the dissemination strategy was also the participation in different events as well as setting up different channels and dissemination products, as stated before. The different dissemination methods that are planned to be leveraged in V4Design are further detailed in Tables 1 and 2 of D8.2. These dissemination activities correspond to specific actions that will be realised during the project. In this context, Section 4 presents specific academic and industrial events, conferences and journals that will be targeted by the partners for the first year of the project.



3 SUMMARY OF PERFORMED DISSEMINATION ACTIVITES

Here, we present the updates made in our dissemination material (e.g. leaflet, poster and video) and website and social media. In addition, we report on the newsletter and press release articles prepared and distributed so far.

3.1 Website and Social Media updates

The project website as seen in Figure 1 (https://v4design.eu) is still the main point of attraction for everyone interested in the work done in V4Design.



Figure 1: V4Design News on the website (https://v4design.eu/news/)

Throughout the year, the website and social media pages of the project have been updated with recent news, accomplishments, event participations and interesting content pertaining to the project. Overall, 18 news items have been posted in order to increase the



engagement of website visitors with V4Design. Figure 2, illustrates an overview of the news items:

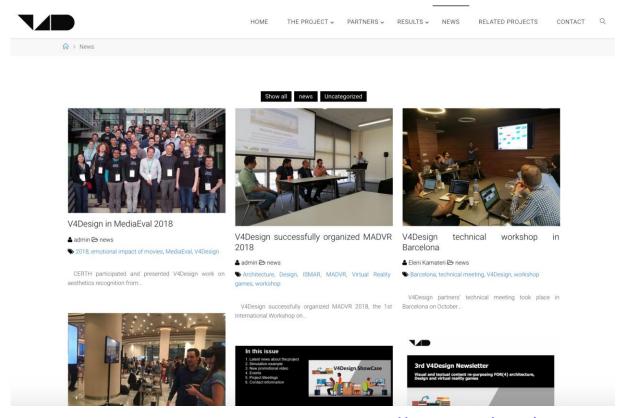


Figure 2: V4Design News on the website (https://v4design.eu/news/)

3.1.1 Website Traffic

The V4Design Website uses Matomo to help us analyse the traffic and optimize our project's presence in the Web. The data will be kept during the project's lifetime and for another three months after its termination. The data will be only processed by the V4Design Consortium.

According to Matomo analytics, the site attracted overall 829 visits. The average visit duration is 2 min 37s and approximately 3 actions (page views, downloads, outlinks and internal site searches) are completed per visit. Matomo further reports 2,311 page views and 1,720 unique page views of the V4Design website.

Figure 3 and Figure 4 demonstrate Visits Overview and a Visitors' map respectively.



Visits Overview **829** visits 2 min 37s average visit duration 56% visits have bounced (left the website after one page) 2.9 actions (page views, downloads, outlinks and internal site searches) per visit **1.16s** average generation time **2,311** pageviews, **1,720** unique pageviews 5 total searches on your website, 1 unique keywords 51 downloads, 47 unique downloads 59 outlinks, 52 unique outlinks 36 max actions in one visit

Figure 3: V4Design website Visits Over Time (source: Matomo Analytics)

Visitor Map



Figure 4: V4Design website Visitor Map (Source: Matomo Analytics)



3.1.2 Social Media channels and analytics

V4Design's goal is to make extensive use of the capabilities offered by social networks to disseminate its achievements and reach a wide audience. For this purpose, a number of social media accounts have been already generated and linked through the projects website:

- Facebook URL: https://www.facebook.com/V4DesignProject/
- Twitter: @V4DesignProject, https://twitter.com/V4DesignProject
- LinkedIn group: https://www.linkedin.com/groups/8655973/

The following table summarizes the followers/fans/interested stakeholders that follow the project via social media so far. Although the engagement in social networks is still rather low, we expect that as we implement the envisaged dissemination activities these figures are expected to increase.

	Audience
Facebook	41 page likes // 43 followers
Twitter	34 followers
LinkedIn	14 connections

Table 1: V4Design's analytics in social media

Figure 5, shows interesting insights with regards to V4Design's 5 most recent posts. The project has a satisfying organic growth as it has already reached more than 2,000 people with engaging posts on various activities and events. Clearly the project has the potential to reach a wide audience by leveraging the capabilities offered by social media and such statistics are expected to grow further as the project progresses.

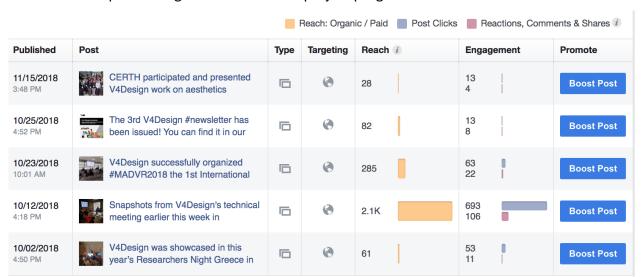


Figure 5: Insights from Facebook

In the context of V4Design, we also measure and try to boost our impact on Twitter. Twitter analytics¹ provides a wealth of information that can help consortium members to create



meaningful Tweets that will resonate with V4Design's target audience. According to Twitter analytics, we have 1512 tweet impressions (platform accessed on 20/11/2018) 26 profile visits and 1 mention in the past 28 days. Figure 6, demonstrates impressions and engagement of one of our top tweets.

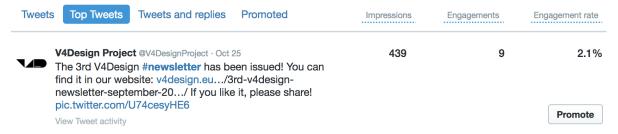


Figure 6: Twitter Insights

3.2 Updated leaflet

In the context of the V4Design participation in ICT 2018 in Vienna, the leaflet of the project was updated in order to become more visually attractive, reflect the project objectives challenges and impact and target diverse audiences from various backgrounds. Figure 7, depicts the updated leaflet.





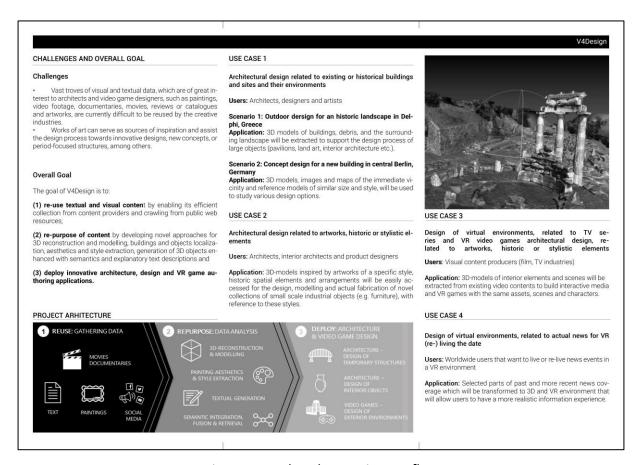


Figure 7: Updated V4Design Leaflet

3.3 Posters for exhibitions

The poster is a large-scale overview sheet to present the idea of the V4Design project. It highlights key aspects of the project, from the overall idea of V4Design and the problem it aims to solve, to the practical use cases, the technical set up as well as the set-up of the project consortium.

The poster was used for different types of events; mainly conferences and user workshops were V4Design was present with a booth (i.e. ICT 2018 in Vienna). The poster would be there to attract people, to get a brief overview and for representatives of the project to quickly showcase the details of the project, giving the possibility to indicate certain aspects of the project without just describing them.

The initial draft of the poster was updated twice during the project's first year, once to be used in the Digital Assembly 2018 in Sofia and once to be used in the ICT 2018 exhibition. Figures 8 and 9 illustrate the posters respectively.





Figure 8: Digital Assembly 2018 poster





Figure 9: ICT poster



3.4 Press release

Press releases will be issued once a year, as well as for all important milestones and events. They will target the local or national press of the partners entrusted with this task. The press releases will describe the goals of the project in a simple, jargon free language and whenever possible highlight the benefits for the region/country and the importance of the local partner being part of an EU consortium.

V4Design was presented in the CERTH newsletter on February 2018. The main concept, objectives and challenges of the project were explained and photos from the kick off meeting of the project were also included. The newsletter was also disseminated in CERTH's social channels and is received by hundreds of recipients including journalists and prestigious news sites.

The newsletter can be found in this link: https://www.certh.gr/dat/2EBF0652/file.pdf. The article on V4Design is located on page 6.

3.5 Newsletter

CERTH, the coordinator partner of the dissemination activities, publishes newsletters regularly (on a three-month basis) to inform partners and the public of ongoing activities, latest news and the achievements of the project.

The second newsletter was released on June 2018, and is depicted in Figure 10. The full version is accessible through the V4Design website (https://v4design.eu/2018/07/16/2nd-v4design-newsletter-june-2018/). On September 2018, the third newsletter followed, including a featured article by AUTH on "Use case creation and user requirements extraction exercise". The newsletter is available also on the project website: https://v4design.eu/wp-content/uploads/2018/10/3rd-V4Design-Newsletter-1.pdf.

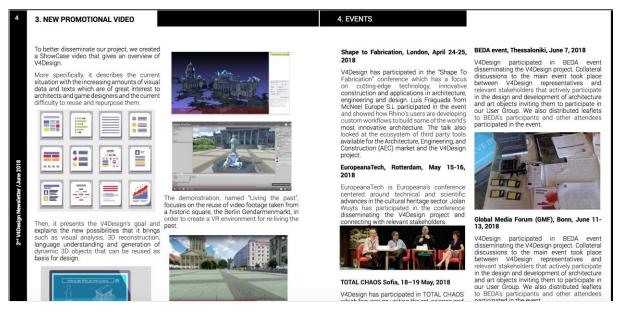


Figure 10: Snapshot from the 2nd project newsletter

The fourth project newsletter, comprehensively presented the work that is conducted in the context of aesthetics and localisation and included a photo gallery and short presentation of the project booth in ICT 2018. The fourth newsletter was also disseminated to various



stakeholders and is available in the project website: https://v4design.eu/2018/12/21/4th-v4design-newsletter/.

Future Newsletters might also include interviews with project 'champions', some quotes from end users or praise from external evaluators (according to D8.2). In this context, we also consider inviting each time a member of the project consortium to contribute to the ongoing Newsletter with a short article that will describe the developments or processes towards a recently accomplished achievement.

The proposed calendar is depicted in the following table:

Table 2: Newsletter Calendar

	Released
September 2018 – AUTH (requirement elicitation exercise)	✓
December 2018 – CERTH (aesthetics and localisation)	✓
March 2019 – McNeel (operational prototype)	
June 2019 – KUL (3D reconstruction)	
September 2019 – NURO (1st prototype)	
December 2019 – EF (dataset creation)	
March 2020 – McNeel (2nd prototype)	
June 2020 – UPF (summarisation)	
September 2020 – CERTH (semantics)	
December 2020 – AUTH (final system evaluation)	

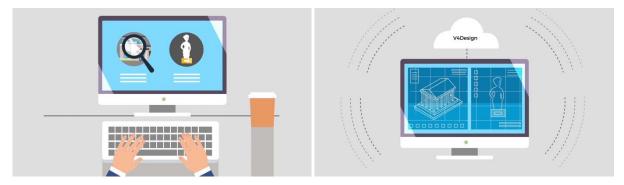
3.6 Audio-visual Material

SLRS produced and directed V4Design ShowCase video https://www.youtube.com/watch?v=oxH3jU-qrll using newly produced animations, text from CERTH and screen captured material from KUL and NURO, to illustrate the V4Design process.

The video (Figure 11) begins by communicating the background situation, where architects and game designers have a great interest in the large amounts of visual data that are available - but that there is a difficulty in reusing and repurposing this material for their own needs. The video (Figure 12) then continues to explain how the V4Design project aims to resolve these issues.

The video explains that this will be done by the means of:

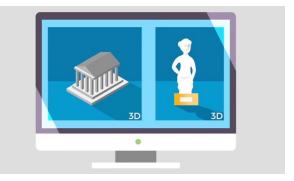




1. Visual analysis



2. 3D construction



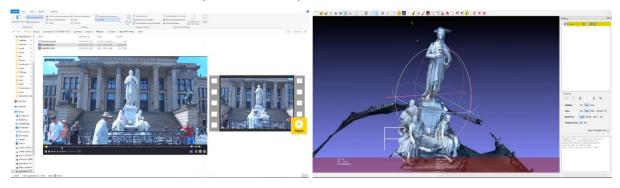
3. Language understanding

4. Generation of 3D objects.

Figure 10: Screenshots of V4Design Showcase video

In order to make the explanation of this process more concrete, the video shows a sample case in which new video footage was taken from a historic square, in order to create a Virtual Reality environment where a visitor is able to walk through the virtual square and visualize the area in different time periods.

The video shows different steps in the example case, such as:



- 1. 3D-reconstruction from video material.
- 2. Editing of 3D models.







- 3. Import of 3D models in VR designing tool.
- 4. Completion of virtual scene.

Figure 11: Screenshots of V4Design Showcase video

The V4Design Showcase video is used in communication about the V4Design project on the project website, in social media, in emails, and as an introduction to the V4Design project in conferences and other public settings.



4 DISSEMINATION EVENTS AND VENUES

In regards to events, V4Design tried a varied approach in order to reach out to the target audiences with the necessary repetition. This was to ensure that V4Design could reach everyone with their message. The dissemination actions, including the presentations of V4Design to conferences and events, to consortia of other projects, as well as the submission of research papers to conferences/workshops relevant to the research areas of the project up to M12, are documented in Tables 3 and 4.

Table 3: V4Design presentation to conferences and events

Dissemination action	Target audience		
	End users	Researchers and academic groups	Developers
V4Design presentation in High- level Horizon 2020 conference of The European Year of Cultural Heritage, 20 March, Brussels, Belgium (CERTH participated)	Cultural heritage industry	Cultural heritage researchers	Cultural heritage industry
Shape to Fabrication, V4Design has participated in the "Shape To Fabrication" conference in London, on April 24-25, 2018 (McNeel)	Architects, Engineers, Designers		
EuropeanaTech, Rotterdam, May 15-16, 2018 (Europeana)	Cultural heritage industry	Cultural heritage researchers	Cultural heritage industry
TOTAL CHAOS Sofia, 18-19 May, 2018 (HdM)	Architecture design industry		
BEDA event, Thessaloniki, June 7, 2018 (CERTH)	Architecture, interior design	Architecture professors	
Global Media Forum (GMF), Bonn, June 11-13, 2018 (DW)	Media and Media related stakeholders		
Digital Assembly 2018, Sofia, June 25 - 26, 2018 (NURO, CERTH)	Cultural heritage		VR and video game creators
Pirate Summit 2018 , Cologne, Germany, July 3-5, 2018 (NURO)			VR and video game creators
Gamecom 2018, Cologne, Aug 21, 2018 – Aug 25, 2018 (NURO)			VR and video game creators



CBMI 2018, International Conference on Content – Based Multimedia Indexing, September 4-6, 2018 (CERTH)		Computer vision & deep learning researchers	
Digility 2018, Cologne, September 26th-27th 2018 (NURO)			VR and video game creators
Researcher's night, Thessaloniki, September 29, 2018 (CERTH)	Open day to public		
ISMAR, Munich, October 16 - 20, 2018 (CERTH, NURO)		VR, AR and MR researchers	VR and video game creators
1st International Workshop on Multimedia analysis for Architecture, Design and Virtual Reality games (MADVR), and presented progress in several V4Design modules, Munich, October 16, 2018 (CERTH, KUL, NURO)		Computer vision & 3d-modeling researchers	
MediaEval 2018 , Nice, France, October 29 - October 31, 2018 (CERTH)		Multimedia & visual analysis researchers	
ICT 2018 Exhibition, Vienna, Austria, December 4 - 6, 2018 (CERTH, NURO)	EU officers, industry stakeholders	Multiple	Multiple
First Multilingual Surface realization Workshop (MSR @ ACL), Melbourne, July 19, 2018 (UPF)		Natural Language generation researchers	

Adding to the previous table, it is important to mention that the DW Research and Cooperation Projects team presented the project internally at Deutsche Welle during different events: 1) In the scope of an overall research project presentation once in Bonn and once in Berlin (target group: anyone interested working for DW including journalists, distribution & technical department, etc.)), 2) during a technical innovation jour fix V4 Design was presented in a group from technical and editorial department at Deutsche Welle (target groups pertained to tech, editorial and graphic departments). The DW team also DW presented the project at the Code University in Berlin along with other projects.



4.1.1 Collaboration with other projects

Table 4 presents the V4Design collaborations with other EU funded projects. V4Design also had a common meeting with H2020 KRISTINA on 20-21 February 2018. The partners participating were: CERTH and UPF.

Table 4: Collaboration with other projects

Project name	Collaboration with V4Design	
H2020, DigiArt	3D reconstruction for real-world-derived digital assets, VR interface, interaction strategies with 3D models.	
H2020, Connexions	3D reconstruction for extracting 3D-models from aerial visual data; crawling and scrapping data from the web; language analysis and text generation.	
H2020, SUITCEYES	Understanding of the objects that exist in interior spaces visual data understanding the interior scene that an image or video shows semantics and reasoning augmentation and fusion of multimoda data.	
H2020, Multidrone	Repurposing of video footage.	
Scantheworld	3D reconstruction of cultural heritage assets.	
Sketchfab	Data storage and retrieval of 3D objects.	
CARARE	Archaeological cultural heritage aggregator in Greece.	
H2020, SAUCE	Reuse of digital assets by creative industry companies for future productions.	
TecSemHu	Reuse of semantic resources.	
H2020, TENSOR	Multilingual semantic language analysis and multilingual text generation.	
H2020, beAWARE	Multilingual semantic language analysis.	
FWO-SBO PhD research project, Flemish cities in transition	Investigate of the transition of Flemish cities to sustainable smart cities. Uses appropriate digital methods and tools to manage and revalorize information about Dutch built heritage in an efficient and future proof manner, aligned with upcoming regulations in the EU. Linked data and the connection to BIM models are part of the used methodology.	

4.2 Scientific publications

Right from the beginning, the V4Design consortium has been publishing scientific papers about the work planned and accomplished in the context of the project. The scientific



project partners attended different conferences and published to different magazines and proceedings publications. All in all, a total number of **15 papers** were published under the label of V4Design during the first year of the project, covering conferences across the globe in all scientific matters the project touched through its work. This number is expected to grow as the project progresses so as to help promote the project among the scientific community, hence raising awareness and inform about the work in V4Design. Table 5, gives an overview of all the papers published:

Table 5: V4Design publications

Dissemination action	Target audience		
	End users	Researchers and academic groups	Developers
Moumtzidou A., Andreadis S., Markatopoulou F., Galanopoulos D., Gialampoukidis I., Vrochidis S., Mezaris V., Kompatsiaris I., Patras I., "VERGE in VBS 2018", Proc. 24th International Conference on Multimedia Modeling (MMM2018), February 2018, Bangkok, Thailand		Conference participants	
Gialampoukidis I., Moumtzidou A., Vrochidis S., Kompatsiaris Y. (2018) "Fusion of Compound Queries with Multiple Modalities for Known Item Video Search", Proceedings of the 13th Workshop on IEEE Image, Video, and Multidimensional Signal Processing (IVMSP 2018), 10-12 June 2018, Zagori, Greece		Conference participants	
Giannakeris P., Avgerinakis K., Vrochidis S., Kompatsiaris I. (2018) "Activity Recognition from Wearable Cameras", Special issue of International Conference on Content - Based Multimedia Indexing (CBMI), 4-6 September, La Rochelle, France		Conference participants	
Vrochidis S., Moumtzidou A., Gialampoukidis I., Liparas D., Casamayor G., Wanner L., Heise N., Wagner T., Bilous A., Jamin E., Simeonov B., Alexiev V., Busch R., Arapakis I., Kompatsiaris I. (2018).		Journal readers	



	1	T	 _
"A multimodal analytics platform for journalists analysing large-scale, heterogeneous multilingual and multimedia content", Frontiers in Robotics and AI, 5, 123.			
Andreadis S., Moumtzidou A., Galanopoulos D., Markatopoulou F., Apostolidis K., Mavropoulos T., Gialampoukidis I., Vrochidis S., Mezaris V., Kompatsiaris I., Patras I. (2019) "VERGE in VBS 2019", International Conference on Multimedia Modeling, January 2019 (accepted for publication)		Conference participants	
Batziou E., Michail E., Avgerinakis K., Vrochidis S., Patras I., Kompatsiaris I., "Visual and audio analysis of movies video for emotion detection", Emotional Impact on Movies task, MediaEval 2018		Conference participants	
Avgerinakis K., Meditskos G., Derdaele J. Mille S., Shekhawat Y., Fraguada L., Lopez E., Wuyts J., Tellios A., Riegas S., Wachtmeister J., Doczy K., Vos V.J., Heise N., Piesk J., Vergauwen M., Wanner L., Vrochidis S., Kompatsiaris I., "V4Design for enhancing architecture and video game creation", MADVR workshop in conjunction with ISMAR 2018.	Architecture and video game designers	Conference participants, 3D-reconstruction, machine vision, deep learning,	
Roberto de Lima, Vergauwen M., "From TLS Recoding to VR Environment for Documentation of the Governor's Tombs in Dayr al- Barsha, Egypt", MADVR workshop in conjunction with ISMAR 2018.		Conference participants, 3D- reconstruction, machine vision, deep learning	
Derdaele J., Shekhawat Y., Vergauwen M., "Exploring Past and Present: VR Reconstruction of the Berlin Gendarmenmarkt", MADVR workshop in conjunction with		Conference participants, 3D-reconstruction, machine vision,	



ISMAR 2018.	deep learning
Mille, S., A. Belz, B. Bohnet, Y. Graham, E. Pitler, L. Wanner. (2018). "The First Multilingual Surface Realisation Shared Task (SR'18): Overview and Evaluation Results". In Proceedings of the 1st Workshop on Multilingual Surface Realisation (MSR) at ACL'18, Melbourne, Australia.	Conference participants (natural language generation)
Shvets, A., S. Mille, L. Wanner. (2018). "Sentence Packaging in Text Generation from Semantic Graphs as a Community Detection Problem". In Proceedings of the 11th International Conference on Natural Language Generation, Tilburg, The Netherlands.	Conference participants (natural language generation)
Mille, S., A. Belz, B. Bohnet, L. Wanner. (2018). "Underspecified Universal Dependency Structures as Inputs for Multilingual Surface Realisation". In Proceedings of the 11th International Conference on Natural Language Generation, Tilburg, The Netherlands.	Conference participants (natural language generation)
Bassier M., Van Genechten B., Vergauwen M. (2018). "Classification of Sensor Independent Point Cloud Data of Building Objects using Random Forests". Journal of Building Engineering. ISSN: 2352-7102.	Journal readers
Bassier M., Deloof T., Vincke S., Vergauwen M. (2018) "Panoramic image application for cultural heritage".Digital Heritage. Progress in Cultural Heritage: Documentation, Preservation, and Protection: International Conference, EuroMed 2018. Cyprus, Lecture Notes in Computer	Conference participants



Science.			
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4.3 V4Design in ICT2018

V4Design successfully participated in the EU ICT Exhibition 2018 in Vienna, Austria, from Dec 6-8, 2018. Experienced V4Design developers and system engineers guided visitors through the project's Virtual Reality (VR) immersive environment of V4Design, which revives the past, the present and an artistic surprise of Gendarmenmarkt square, Berlin as Figure 13 depicts.

3D-reconstruction technologies have been deployed in thousands archived and crawled images in order to build a VR environment, which depicts the square as it is today and as it appeared to be in the beginning of the century. Texture proposals have also been integrated in the demo so as to enable style transfer in the reconstructed architectural structures and 3D-models. Further functionalities for video game designers have also been incorporated in the demo so that the end-users can add, move and rescale 3D-models in this immersive environment while visiting and the VR square playing with this demo.



Figure 12: V4Design in ICT2018

Several demos were presented in an attractive and interactive manner in an appropriately designed booth, showcasing the project's potential for allowing architects, designers and video game creators to re-use heterogeneous archives of already available and retrieved digital content and re-purpose it by making the wealth of 3D, VR, aesthetic and textual information easily accessible and providing resources and tools to design and model



outdoors and indoors environments of architecture and VR video game projects. Wide publicity of the project as well as valuable networking with other ICT stakeholders had occurred. CERTH also presented a short work progress in the session: Art, the human touch of technology, coordinated by Ralph Dum, Senior Expert, European Commission, DG Connect and Head officer of STARTS program as Figure 14 demonstrates.

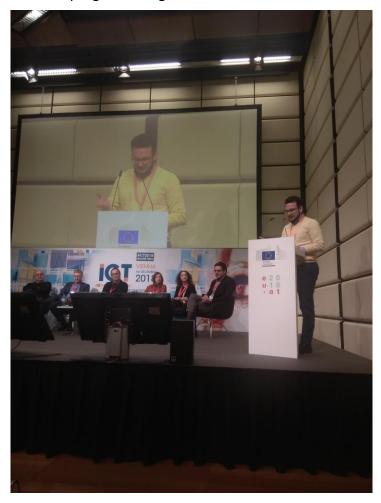


Figure 13: V4Design progress presentation in the session: Art, the human touch of technology

4.4 V4Design in Digital Assembly 2018

V4Design participated in Digital Assembly 2018 with an exhibition stand where visitors had the chance to have a "Living the past" experience through a VR demonstration of a walk in a historic square, the Berlin Gendarmenmarkt, in different time periods. In the event, we had also the chance to distribute leaflets to the attendees, while useful discussions were made about the concept of the project and its recent results. Attendees of the event were also invited to join our User Group filling in a form or just providing their email account.





Figure 14: V4Design in Digital Assembly 2018 (a)



Figure 15: V4Design in Digital Assembly 2018 (b)

4.5 Organisation of Workshops

1st International Workshop on Multimedia analysis for Architecture, Design and Virtual Reality games (MADVR), Munich, October 16, 2018 (http://mklab.iti.gr/madvr2018/)

V4Design organized MADVR 2018, the 1st International Workshop on Multimedia analysis for Architecture, Design and Virtual Reality games, which will be held in parallel with IEEE ISMAR conference on October 16, 2018 in Munich, Germany. The workshop presented 6 papers relevant to the various aspects of multimedia analysis, including Virtual, Augmented and Mixed Reality, 3D-reconstruction from multimedia and 3D-modelling, image/video retrieval focusing on architecture structures and elements, multimedia and textual content crawling and scrapping, video game and architecture VR applications, and showcased the application of multimedia analysis for architecture, design and Virtual Reality (VR) games.





Figure 17: Organisation of MADVR Workshop

First Multilingual Surface realization Workshop (MSR @ ACL), Melbourne, July 19, 2018 (http://taln.upf.edu/pages/msr2018-ws/)

UPF organized a workshop and a shared task on multilingual generation at the ACL conference. The shared task data has been produced using the current V4Design English and Spanish analysis pipelines and techniques for multilingual text generation in the context of larger applications, such as V4Design, were discussed during the workshop.



5 V4DESIGN FORESEEN DISSEMINATION ACTIVITIES

Based on the analysis presented in Section 2, V4Design targets diverse audience groups with different interests and needs, including end users, researchers, academics and developers. It was also mentioned that different target groups require a different approach by the V4Design consortium, meaning that the information that should be conveyed, as well as the means used should take into consideration the background knowledge and the interests of the targeted group.

However, since at this stage of the project, there are no results or product that can be demonstrated, the dissemination objective is to present the V4Design concept, the objectives and the use cases addressed in relevant international and national events. Networking activities are also of importance, since they allow for direct interaction with potentially interested target groups and researchers working in the same areas.

V4Design will actively be on the lookout for high profile scientific/academic conferences and commercial events that are within the domain of interest of the project. On the one hand, the scientific/academic conferences that are of interest for the V4Design consortium are the ones that target the same research areas with V4Design research partners such as content extraction from web and social media, visual analysis (aesthetic concept extraction, localisation, etc.), text analysis, 3D reconstruction, semantic representation and reasoning, text generation, etc. On the other hand, the commercial events that are of interest refer to media, architecture, design, game and cultural-related commercial conferences, fairs and exhibitions.

5.1 Targeted Dissemination Events

There are several dissemination actions planned for the immediate future. The list that follows highlights the most important events targeted by the consortium.

Event: Forum on the future of learning;

Date: 24th Jan;

Location: Brussels, Belgium;

Website: http://ec.europa.eu/education/events/forum-on-the-future-of-

<u>learning</u> en;

Brief: Organised at the initiative of Tibor Navracsics, Commissioner for education, culture, youth and sport, by the European Commission (DG EAC), the event will provide an open platform for exchanges between education, training and youth stakeholders and policymakers. The main discussions will focus on key issues that education and training will be facing in Europe and beyond until 2030, including the challenges associated to demographics inclusion and citizenship technological change and the future of work digitalisation of society environmental concerns investments, reforms and governance.

Event: Social innovation for refugee inclusion: a sense of home;

Date: 24th Jan – 15st Jan; **Location**: Brussels, Belgium;

Website: https://www.eesc.europa.eu/en/agenda/our-events/events/social-

<u>innovation-refugee-inclusion-sense-home-co-organised-conference</u>;



Brief: More than three years on from the peak period of arrivals to Europe, many countries are shifting from crisis management to long-term inclusion of migrant and refugee populations. This event aims to explore how innovations in living situations promote community-driven inclusion, overcoming divisions, facilitating economic opportunities, and fostering a sense of home

Event: Edge Congress;
 Date: 30th Jan – 31st Jan;

Location: Amsterdam, Netherlands

Website: http://www.edgecongress.com/europe;

Brief: This trend for a more distributed architecture will multiply and expand as the convergence of new technologies and developments such as IoT, 5G, AI, autonomous cars and smart cities, connected things, microdatacenters and Edge facilities, enable new ways of analysing and managing data as well as increasing latency which existing infrastructure would not be able to handle.

Event: Game Developers Conference;

Date: 18th Mar - 22nd Mar;

Location: San Francisco, California; Website: https://www.gdconf.com/;

Brief: The Game Developers Conference (GDC) is the world's largest professional game industry event. GDC brings together 28,000 attendees to exchange ideas and shape the future of the industry with five days of education, inspiration and networking at the Moscone Convention Center in San Francisco. Attendees include programmers, artists, producers, game designers, audio professionals, business decision-makers and others involved in the development of interactive games and immersive experiences.

Event: Design Thinking and Innovation Week;

Date: 18th Mar - 22nd Mar;

Location: London, UK

Website:

https://futurelondonacademy.co.uk/en/course/design-thinking-and-innovation;

Brief: An immersive programme for creative entrepreneurs, innovation directors and business owners – introducing you to London's most innovative businesses and uncovering the latest approaches to design thinking and innovation.

Event: EGX Rezzed;
 Date: 4th Apr – 6th Apr;
 Location: London, UK;

Website: https://www.egx.net/rezzed;

Brief: All the great stuff from previous EGX events – hundreds of screens featuring the very best console and PC games weeks (or months) before they're released, presentations by world famous game designers and a feast of other game related features.

Event: Thessaloniki Design Week;

Date: 04th May – 10th May; **Location**: Thessaloniki, GR

Website: https://thessalonikidesignweek.gr;

Brief: The vision of Thessaloniki Design Week is to operate on many levels as a



participatory platform for a wide range of institutions, entities, entrepreneurs, individuals, scientists and teams acting in the creative industry, as an opportunity to develop research and innovation and to produce new suggestions and ideas, products and services, as a tool of expression, education and professional development, but also extroversion of the city and its potential, connecting it to the corresponding institutions, entities, organisations, foundations and events abroad.

Event: Venice Biennale 2019;Date: 11 May - 24 Nov 19;

Location: Venice, Italy;

Website: http://www.labiennale.org/en/art/2019/homepage-2019;

Brief: The Venice Biennale has been for over 120 years one of the most prestigious cultural institutions in the world. Established in 1895, the Biennale has an attendance today of over 500,000 visitors at the Art Exhibition. 2019 sees the 58th edition of this international art exhibition.

Event: CEBIT;

Date: 24th Jun – 28th Jun; Location: Hanover, Germany; Website: https://www.cebit.de/;

Brief: CEBIT is Europe's leading digital event. Business, leads, ideas. As a triple-punch event featuring exhibits, conferences and networking, CEBIT covers the digitisation of business, government and society from every angle.

Event: Future of Branding Week;

Date: 24th Jun – 28th Jun; Location: London, UK;

Website: https://futurelondonacademy.co.uk/en/course/branding;

Brief: From Sonic Branding to VR and AR – explore how leading brands are disrupting the industry using new channels and evolving technologies. Discover the most innovative approaches to brand strategy from the world-class creative and advertising agencies

• Event: Ux and Digital Design Week;

Date: 12th Aug – 16th Aug; **Location**: London, UK;

Website: https://futurelondonacademy.co.uk/en/course/ux-and-digital-design; Brief: Create experiences that people will fall in love with. Get inspiration for your current projects and advice on how to build a design team of your dreams. Find out the secrets of what makes products successful and what mistakes companies made

when they were building new services.

Event: Gamescom;

Date: 20th Aug – 24th Aug; **Location**: Cologne, Gemany;

Website: http://www.gamescom.global/;

Brief: Gamescom (stylized as gamescom) is a trade fair for video games held annually at the Koelnmesse in Cologne, North Rhine-Westphalia, Germany. Gamescom is used by many video game developers to exhibit upcoming games and game-related

hardware.



Event: 16th Istanbul Biennial;
 Date: 14 Sep - 10 Nov 19;
 Location: Instabul, Turkey;

Website: http://bienal.iksv.org/en;

Brief: The most comprehensive international art exhibition organized both in Turkey and throughout the geographical sphere, the Istanbul Biennial plays an important role in the promotion of contemporary artists not only from Turkey but also from a number of different countries in the international arena. The Istanbul Biennial prefers an exhibition model that enables a dialogue between artists and the audience through the work of the artists instead of a national representation model. A complementary educational program is provided both for students and viewers of art, while simultaneously translated panel discussions, conferences, and workshops are also organized within the scope of the exhibitions.

• Event: Chicago Architecture Biennial;

Date: 19 Sep 19 - 1 May 20; Location: Chicago, USA;

Website: http://chicagoarchitecturebiennial.org/;

Brief: The Chicago Architecture Biennial creates new opportunities every two years for emerging talent in architecture, design, and the arts. Each edition, the Curatorial Team invites architects, artists and designers from around the world to present their work to engage a wide public and global audience.

Event: Tallinn Architecture Biennale (TAB);

Date: 11 Sep 19 - 3 Nov 20; Location: Tallinn, Estonia; Website: https://tab.ee/;

Brief: Tallinn Architecture Biennale (TAB) is an international architecture and urbanplanning festival with a diverse programme that promotes architectural culture. TAB encourages synergy between Estonian and foreign architects as well as between architects and the general public by way of creating contacts and exchanging ideas. TAB core programme consists of five main events — Curatorial Exhibition, Symposium and Tallinn Vision Competition that are all curated by TAB Head Curator, then International Architecture Schools' Exhibition and Installation Programme (IP). TAB main Programme is accompanied by a diverse Satellite Programme, that consists exhibitions, lectures, installations, architectural film programme and other events, all over Tallinn that are related to TAB. Tallinn Architecture Biennale is organised by the Estonian Centre for Architecture.

5.2 Targeted Scientific/Academic Conferences

Some scientific/academic conferences of the aforementioned research areas have been targeted for 2019 and organised per WP or domain of research. These are:

- Visual and textual content analysis (WP3) & 3D model extraction from 2D visual content (WP4)
 - 25th International Conference on MultiMedia Modeling (MMM), 8-11 January, 2019, Thessaloniki, Greece.



- V4Design presentation in 25th International Conference on MultiMedia Modeling (MMM), 8-11 January, 2019, Thessaloniki, Greece.
- o ISPRS 8th International Workshop 3D ARCH, February 2019, Bergama, Italy
- Simaud 2019,7-9 April, Atlanta, US.
- 2019 Annual conference of the North American Chapter on the Association for Computational Linguistics (NAACL), 2-7 June, Minneapolis, USA.
- The Fifth International Conference on Dependency Linguistics (DepLing), August 2019, Paris, France.
- The 57th Annual Meeting of the Association for Computational Linguistics (ACL), 28 July- 2 August 2019, Florence, Italy.
- 17th International Conference on Content-Based Multimedia Indexing (CBMI),
 4-6 September 2019, Dublin, Ireland.
- o Design Modelling Symposium 2019, 21—25 September, Berlin, Germany
- 12th International Conference on Computer Vision Systems (ICVS), 23-25
 September 2019, Thessaloniki, Greece.
- o IASS FORM vs FORCE, 7-10 October, Barcelona, Spain
- MediaEval, Emotional Impact on Movies task, October 2019.
- o ACM Multimedia (ACM MM), October 2019, Nice, France
- The 18th International Symposium on Mixed and Augmented Reality (ISMAR),
 Oct 2019 (a paper about semantics, 3D models and visual analysis technologies -WP4/WP5/WP6 is foreseen to be submitted on this conference)
- o The 30th British Machine Vision Conference (BMVC), Cardiff, 2019.
- The International Conference in Computer Vision (ICCV), 27 October-3 November, 2019, Seoul, Korea.
- o 2019 Annual Conference on Empirical Methods in Natural Language Processing (EMNLP), 3-7 November. Hong Kong.
- o 'Automation in construction' international journal, 2019

Content integration, retrieval and presentation (WP5)

- 33nd AAAI Conference on Artificial Intelligence (AAAI-19), 27 January −1 February, 2019, Hawai, USA
- 12th ACM Eleventh International Conference on Web Search and Data Mining (WSDM-19), Melbourne, Australia, 11-15 February, 2019
- 17th Annual IEEE Intl. Conference on Pervasive Computing and Communications (COMOREA), 11-15 March, 2019, Kyoto, Japan
- 41th European Conference on Information Retrieval (ECIR), 14-18 April, 2019, Cologne, Germany
- 42st International ACM SIGIR Conference on Research and Development in Information Retrieval (ACM SIGIR-2019), 21-25 July, 2019, Paris, France



- 28th International Joint Conference on Artificial Intelligence, 10 16 August,
 2019, Macao, China
- o Semantics 2019, 9-12 September, 2019 in Karlsruhe
- 18th International Semantic Web Conference, 26–30 October, 2019, The University of Auckland, New Zealand
- o 6th Extended Semantic Web Conference, 2–6 June, 2019, Portorož, Slovenia
- o THE WEB CONFERENCE 2019, WWW, San Francisco, 13-17 May, 2019
- 9th International Conference on Web Intelligence, Mining and Semantics, 26 -28
 June, 2019, Seoul, South Korea
- 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, 17-19 September, 2019, Vienna.
- The Fifth International Conference on Dependency Linguistics (DepLing), August 2019, Paris, France.
- 2019 Annual Conference on Empirical Methods in Natural Language Processing (EMNLP), 3-7 November, Hong Kong.
- The 57th Annual Meeting of the Association for Computational Linguistics (ACL), 28 July -2 August 2019, Florence, Italy.
- The 34th ACM/SIGAPP Symposium On Applied Computing (SAC), 8–12 April 2019, Limassol, Cyprus.
- The 12th International Conference in Natural Language Generation. End of 2019, place to be defined

As far as mainly the end users and the developers are concerned, they can also be informed regarding the idea, progress and products of V4Design through commercial events/ conferences. In such events, the targeted groups can be informed through posters, flyers and brief presentations on the idea behind the project without putting emphasis on technical matters unless it is considered necessary. Specifically, the following media, architecture, design, game and cultural-related commercial conferences, fairs and exhibitions are targeted for 2019.

5.3 V4Design foreseen workshops and open days

The V4Design consortium will organize a number of events during the project duration. Among these, a number of events aim at demonstrating the V4Design system to the public and receiving constructive feedback in order to improve the supported features and enlarge its potential impact. These events will focus on enhancing the project objectives, receiving instructive criticism from the users and improving the system as well as enlarging exploitation opportunities and impacts. Below, the most significant open days and demonstration workshops are presented, as they have been decided at the beginning of the project, while the organisation of additional venues will be further considered during the project's lifetime.

• **1st Demonstration workshop:** The 1st demonstration workshop will be organised by NURO in collaboration with DW in Germany (probably in the Rhineland), after the deployment of the 1st prototype (M20). The status quo of the 1st prototype will be



presented and participants will be able to experience, test and evaluate it while their responses and feedback will be integrated into the next development cycles. The workshop will also function as a dissemination and exploitation event and is expected to help extend the group of people interested in the project.

- 2nd Demonstration workshop: The 2nd demonstration workshop will take place in the AUTH facilities in Thessaloniki, Greece after the 2nd prototype deployment (M28). The main goal of this workshop is to present the status quo of V4Design to academic groups (students, staff, etc.) of various levels (undergraduate, postgraduate). The workshop will include training seminars, lectures, design studios and actual fabrication of selected design prototypes. End users will be able to experience, test and evaluate the fabricated prototypes and provide important feedback regarding the development of the V4Design prototype and its tools. This workshop will also function as a dissemination and exploitation event that will assist in informing broader groups of people interested in the project and in communicating its capabilities and potential.
- 1st Open Day: The 1st Open Day will be held by HdM, after the deployment of the 2nd prototype (M31), aiming to perform testing and evaluation of the V4Design system. The workshop will demonstrate the V4Design prototype and tools in a wide audience comprised by academic and market representatives. The event's location will be decided in due course.
- 2nd Open Day / Final Demonstration Workshop: This event will be organised by McNeel, after the release of the final system (M35), in order to fully demonstrate the V4Design solution to a diverse group of potential customers, including architecture offices, video game companies, design industry leaders, governmental members, investors and societal organisations. The event might be collocated with a Rhino User Meeting that is organized by McNeel several times throughout the year. The event's location will be decided in due course.

5.4 V4Design foreseen meeting with other projects

We plan to organise common meetings of V4Design with H2020 MindSpaces, H2020 INCEPTION, H2020 Replicate and other projects with relevant scope and/or research activities.

5.5 Updated calendar of events

According to the events described in the above sections Table 6 contains a first draft of a calendar of the main international and national conferences, exhibitions and events that V4Design will organise and participate in, as well as the events already scheduled.



Table 6: Calendar of events

	Year 1										
Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
		High-level Horizon 2020 conference of The European Year of Cultural Heritage		1. REACH opening conference 2.EuropeanaTech conference	Digital Assembly 2018				Congress on Cultural Heritage		1. ICT Proposers' Day 2. Closing conference by Austrian Presidency
		User Requirements workshop									

						Year 2					
Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019
M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
MMM2019				Design Week 2019			Gamescom 2019		MediaEval 2019 ACM Multimedia 2019		
					Evaluation	internal Evaluation session	1st Demonstration workshop				

						Year 3					
Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36
			2nd			1st Open					2nd Open Day/Final
			Demonstration			Day					Demonstration
			workshop								Workshop



6 COLLABORATION ACTIVITES

6.1 V4Design User Group (UG) – (Users listed so far)

The V4Design UG will be created by recruiting relevant stakeholders from the creative industry field with an explicit interest in following the progress of the project. Existing contacts from EU funded projects, the academic and scientific community, the industry and business related community will also be involved in order to attract members.

The objective of the UG is to setup partnerships that are mutually beneficial; after specific agreements (initially Non-Disclosure Agreements (NDA) will be signed) it will be possible for them.

- To participate in the evaluation of the project results
- To test the project software and provide feedback
- To establish synergies for the possible exploitation of the project results, the development of business models, partnerships etc.,
- To participate in the technical discussions and activities (special sessions, standardisation, etc.)
- To contribute with ideas or requirements that may fit the project objectives.

V4Design partners who have proximity to users that fall into the aforementioned groups will contact them in order to present V4Design and invite them to the UG. The most important activities will be setup by the user partners of V4Design who will conduct the following activities:

- CERTH is going to invite companies developing technological solutions for video analysis exploiting well established research and industrial contacts in this field. In addition, CERTH will get in touch with research and academic partners working on video analysis and specifically on aesthetics and style extraction from paintings and images from artwork, as well as building and object spatio-temporal segmentation from documentaries and other sources of video in order to cooperate by exchanging knowledge and organizing common experiments.
- KUL will promote the results and use cases to the architectural companies in its industrial network as well as to the representatives of the field who are active as guest-lecturers in the institute. KUL will also show the results on national and local events, such as the yearly BIM user days in Ghent.
- UPF will looks for potential users through dissemination events in the academic community, and through the promotion of the V4Design technologies with the collaboration of the UPF Business Shuttle.
- McNeel will promote the existence and benefits of V4Design through its communication channels where it regularly corresponds with its users regarding upcoming events and new tools. Additionally, McNeel will promote V4Design through launching a new platform 'Rhino research' where it will highlight important research projects that utilise Rhino and other tools developed by Robert McNeel and Associates or third party developers.



- HdM will promote the existence and benefits of V4Design among using the channels and network of its internal Digital Technologies group (HdM-DT). HdM-DT is active in the user communities of several design and geometry authoring software packages. For example, Rhinoceros & Grasshopper by McNeel, V-Ray by ChaosGroup as well as several products by Autodesk for the AEC industry. HdM-DT members are present and speak at user events and conferences and partake in the discussion on how to develop processes and the software itself further. Since roughly fifty percent of the volume of all professional visualisation work is currently developed in-house, HdM-DT maintains close relationships with external visual artists and agencies worldwide to collaborate on projects and learn from each other.
- AUTH will disseminate our activity in the academic community (students, professors and teaching staff). AUTH will target architecture firms acknowledged for their work in the fields relates to V4Design.
- JW will promote the existence and benefits of V4Design exploiting its existing contacts with VR, Architecture and VFX/CGI/animations industries in Sweden.
- AF will promote the existence and benefits of V4Design exploiting their existing contacts with filmmakers and artists.
- DW will use its membership in organisations such as the German ARD (Association of regional public service broadcasters in Germany), the European Broadcasting Union (EBU), and the Institut für Rundfunktechnik (IRT), one of Europe's leading research institutes in the field of broadcasting technology, to promote the V4Design results during meetings, workshops and the like. DW is also involved in numerous other broadcasting-related activities, e.g. forums, working groups and committees (inhouse and external). All these memberships and associations provide excellent platforms and opportunities to promote project results, and to raise awareness among media professionals and related experts. DW also hosts the annual Global Media Forum (GMF), a major international conference taking place in Bonn with over 2,000 attendees covering the role of media in society, international media policies and media in conflicts and peace-building. The annual GMF offers another ideal opportunity to inform participants from all over the world about the project.
- EF will promote the existence and benefits of V4Design to cultural heritage institutions, online aggregators, and relevant user groups through online dissemination and promotion activities. On top of that, V4Design will be represented in Europeana conferences and workshops. Europeana's V4Design coordinator will attend events and conferences relating to digital cultural heritage for design, video games, and architecture to represent V4Design's content collection tasks. Europeana will actively communicate about V4Design opportunities and outcomes with relevant partners, such as the 3D ICONS project, the 3D cultural heritage working group, and Wikimedia Commons.
- NURO will promote the existence and benefits of V4Design by contacting relevant contacts in the gaming industry as well as creative media stakeholders. NURO disseminates activities to relevant parties by one-to-one emails and meetings during various events.



Part of the KPI set forth in *D8.2 Initial dissemination plan and dissemination/communication material, page 39,* for the User Group was met at the time of writing of this deliverable. The goal to meet was 20 users for the User Group, with at least 3 users from each domain. The goal of 20 users has been met, but more work is needed to get at least 3 users from the fields of semantics and language analysis. Enough users focused on 3D reconstruction and on video analysis have been collected.

Currently, three newsletters have been sent out to the User Group, informing them of the updates and progress of the V4Design project. With the first prototype set to be ready in M20, the User Group will be split up into focus groups and into an exploitation group for testing and feedback on the first prototype. The exploitation group is meant to be a small group of highly interested partners that want to discuss about exploitation options of the V4Design system, while the other users will be asked for feedback in targeted focus groups.

Table 7: V4Design User Group members

	Company/ Centre/ Institution	Expertise	Contact Point	Country
1	Mozaika	ICT company providing data science solutions	Mariana Damova	Bulgaria
2	SEERC	Research centre working on knowledge management	Iraklis Paraskakis	Greece
3	Vragments	VR/AR	Linda Rath-Wiggins (linda@vragments.com)	Germany
4	the Good Evil	(Serious) Games	Linda Kruse (linda@thegoodevil.com)	Germany
5	UFA	Film production	Sven Gronemeyer (sven.gronemeyer@ufa.de)	Germany
6	Foster + Partners	Research centre working on knowledge management	Martha Tsigkari	United Kingdom
7	NefertitiHack	Creative design	Jan Nikolai Nelles	Germany
8	ShowIt360	Creative design	Marcus Morba	Germany
9	Deutsche Welle Labs	3D Design	Alexander Plaum	Germany
10	Sketchfab	3D databases	Thomas Flynn	United Kingdom
11	The Discovery Programme	3D for cultural heritage	Anthony Corns	Ireland



	Company/ Centre/ Institution	Expertise	Contact Point	Country
12	Israel Museum	3D for cultural heritage	Susan Hazan	Israel
13	Austrian institute for Technology	3D for cultural heritage	Sergiu Gordea	Austria
14	Netwerk Digitaal Erfgoed	3D for cultural heritage	Marco Streefkerk	Netherlands
15	Deutsche Welle VR Labs	Virtual Reality	Angela Kea	Germany
16	Europeana Collections	3D for cultural heritage	Reem Weda	Netherlands
17	CARARE	3D for archaeological collections	Kate Fernie	United Kingdom
18	3D ICONS	3D for cultural heritage	Sara Gonnizzi Barsanti	Italy
19	Scantheworld	3D for cultural heritage	Jonathan Beck	United Kingdom
20	INCEPTION	3D for cultural heritage	Marinos Ioannides	Cyprus

Apart from the aforementioned people that have confirmed their involvement in the V4Design User Group, there is a list of potential users that under contact (see Table 8Σφάλμα! Το αρχείο προέλευσης της αναφοράς δεν βρέθηκε.):

Table 8: V4Design User Group members under contact

	Company/ Centre/ Institution	Expertise	Contact Point	Country
1	The Virtual Dutchmen	VR/AR/3D Design	Roelof Terpstra	The Netherlands
2	Euronews	VR Journalism	Ole Krogsgaard	France
3	Replicate	3D reconstruction	Paul Chippendale	European project
4	Purple Pill	VR/AR design agency	Coen Kraaijvanger	The Netherlands
5	TU Delft	Technical University	PJM Van Oosterom	The Netherlands



	Company/ Centre/ Institution	Expertise	Contact Point	Country
6	QMUL, Multimedia and Vision Research Group	multimedia applications	Ioannis Patras (i.patras@qmul.ac.uk)	UK
7	Chris Coios	Architecture firm	Chris Coios	USA
8	Foster + Partners	Architecture firm	press@fosterandpartners.com	UK
9	Snohetta	Architecture firm	press@snohetta.com tonje@snohetta.com	Norway
10	UNStudio	Architecture firm	info@unstudio.com	The Netherlands
11	Toyo Ito & Associates, Architects	Architecture firm	ito@toyo-ito.co.jp	Japan
12	Bernard Tschumi Architects	Architecture firm	btua@tschumi.com	France
13	Renzo Piano Building Workshop: RPBW Architects	Architecture firm	press@rpbw.com	France
14	James Corner Field Operations	Landscape Architecture firm	press@fieldoperations.net	U.S.A.
15	Miralles Tagliabue Embt	Architecture firm	press@mirallestagliabue.com	Spain
16	Studio Odile Decq	Architecture, Art, Design	office@odiledecq.com	France
17	Ateliers Jean Nouvel	Architecture firm	presse@jeannouvel.fr	France
18	Kazuyo Sejima + Ryue Nishizawa / S	Architecture firm	press@sanaa.co.jp	Japan



	Company/ Centre/ Institution	Expertise	Contact Point	Country
	ANAA			
19	Kengo Kuma and associates	Architecture firm	kuma@ba2.so-net.ne.jp	Japan
20	VOGT Landscape	Architecture firm	mail@vogt-la.ch	Switzerland
21	Big- Bjarke Ingel Group	Architecture firm	press@big.dk big@big.dk	Denmark
22	Fosters and Partners Specialist Modeling Group	Computational Design and Programming AEC, VR, BIM	https://www.fosterandpartners.com/	London
23	Computational Development Group BuroHappold Engineering	Computational Design and Programming AEC, VR, BIM	https://www.burohappold.com/	London
24	Henn Architects	Computational Design and Programming AEC, VR, BIM	http://www.henn.com/en#design	Berlin
25	ROK	Architecture, Computational Design and Programming	http://www.rok-office.com/	Zurich
26	Flaregames	Game publishing for Mobile games	Justin Stolzenberg	Germany
27	Gameduell Multi-player game developers for worldwide audiences		Boris Wasmuth	Germany
28	PlayGen	Games and gamification for heath and engagement	Kam Star	UK



	Company/ Centre/ Institution	Expertise	Contact Point	Country
29	Rockabyte	Software development and applied games	Stefan Zingel	Germany
30	NL Architects	Architecture offices	office@nlarchitects.nl	Netherlands
31	Christ & Gantenbein	Architecture offices	mail@christgantenbein.com	Switzerland
32	Buchner Bründler Architekten	Architecture offices	mail@bbarc.ch	Switzerland
33	Barkow Leibinger	Architecture offices	info@barkowleibinger.com	Germany
34	Grüntuch Ernst Architekten	Architecture offices	mail@gruentuchernst.de	Germany
35	Staab Architekten	Architecture offices	info@staab-architekten.com	Germany
36	Max Dudler Architekt	Architecture offices	info@mzdudler.de	Germany
37	Dietrich Untertrifaller Architekten	Architecture offices	arch@dietrich.untertrifaller.com	Austria
38	Marte.Marte Architekten	Architecture offices	architekten@marte-marte.com	Austria
39	architecten de vylder vinck taillieu	Architecture offices	mail@architectendvvt.com	Belgium
40	gmp Architekten von Gerkan, Marg und Partner	Architecture offices	hamburg-e@gmp-architekten.de	Germany
41	COBE, Sleth, Ramboll	Architecture offices	cobe@cobe.dk	Denmark
42	Dorte Mandrup	Architecture	info@dortemandrup.dk	Denmark



	Company/ Centre/ Institution	Expertise	Contact Point	Country
	Arkitekter	offices		
43	C.F. Mollers Tegenstue	Architecture offices	kbh@cfmoller.com	Denmark
44	Ofis arhitekti - Rok Oman & Spela Videcnik	Architecture offices	info@ofis.si	Slovenia
45	Caruso St John Architects	Architecture offices	london@carusostjohn.com	United Kingdom
46	David Chipperfield Architects	Architecture offices	info@davidchipperfield.co.uk	United Kingdom
47	Amanda Levete Architects	Architecture offices	info@ala.uk.com	United Kingdom
48	Thomas Heatherwick	Architecture offices	studio@heatherwick.com	United Kingdom
49	Florian Nagler Architekten	Architecture offices	info@nagler-architekten.de	Germany
50	Nickl & Partner	Architecture offices	mail@nickl-architekten.de	Germany
51	Diller Scofidio + Renfro	Architecture offices	disco@dsrny.com	United States
52	Anne Lacaton & Jean Philippe Vassal	Architecture offices	mail@lacatonvassal.com	France
53	Sudraba Arhitektura	Architecture offices	info@sudraba-architektura.lv	Latvia
54	ZAIGAS GAILES BIROJS	Architecture offices	zgb@zgb.lv	Latvia
55	Office for Metropolitan Architecture [OMA]	Architecture offices	office@oma.com	Netherlands
56	MVRDV	Architecture offices	office@mvrdv.com	Netherlands



	Company/ Centre/ Institution	Expertise	Contact Point	Country
57	Hermann Kaufmann	Architecture offices	office@hermann-kaufmann.at	Austria
58	Henke, Dieter/ Schreieck, Marta	Architecture offices	office@henkeschreieck	Austria
59	Meili & Peter Architekten	Architecture offices	arch@meilipeter.ch	Switzerland
60	Pool Architekten	Architecture offices	pool@poolarch.ch	Switzerland

6.2 Definition of the users: user categorisation

6.2.1 Exploitation group (EF)

The User Group contains quite a few companies and individuals that could potentially want to license the V4design architecture or system in general for exploitation purposes. Using the V4Design system as a foundation to integrate in companies' own systems is something that is often done and can be a great way to bring a product to market. For this reason, the planned demonstration workshop will also function as dissemination and exploitation events that help to extend the group of people interested in the project.

A select group of interested partners from the User Group will be invited to attend both the first and second demonstration workshops. The first demonstration workshop will be organised by NURO in collaboration with DW in Germany after the deployment of the first prototype (M20). The second demonstration workshop will take place in the AUTH facilities in Thessaloniki, Greece after the 2nd prototype deployment (M28). For more information, see D7.2 *Use Case Requirements*, page 80.

The goal of inviting the Exploitation subgroup of the User Group to these demonstration workshops is to connect with them and see what feedback they have on the first prototypes. In this way, input on required features, wanted functionality, and a first idea of a possible commercialisation plan can be set up through discussion with the partners. It is also a good way to show the partners that they are valued and their input is taken seriously in the development cycles of the project.

6.2.2 Focus groups

Focus groups are widely used in many research fields to investigate new ideas (Kontio, J. et al., 2004). In respect to software engineering, focus group method is a cost-effective and quick empirical research approach for obtaining qualitative insights and feedback from practitioners that can be used in several phases and types of research. In V4Design, we use this method to elaborate the initial PUC scenarios, to formulate the prior user experience, which was incorporated in the updated user requirements, and to evaluate the system



prototypes. Specifically, two focus groups were created consisting of: a) Architecture professionals and b) Game development specialists.

The first focus group, mainly related to PUC1 and PUC2, consists of architecture professionals from industry and academic environment. The second focus group, related to PUC3 and PUC4, consists of video game developers and media experts. AUTH and HdM were the main responsible for recruiting members for the first focus group while the second focus group was formed by members recruited by NURO and DW.

The focus group members come from user partners' research team and associates, who participated in the discussions throughout the procedure of the proposal phase as well as the first users' meetings.

The focus groups are also balanced in terms of gender and present a considerable spread in the age of their members.

At this stage the involvement of the focus groups was mostly revolved around the use case elaboration and the refinement of the user requirements. However, we expect members of the focus groups to be involved at a later stage in order to further enrich the implementation of use cases and ensure that they reflect current needs of the stakeholders as well as at the evaluation cycles of the developed prototypes.

Architecture professionals

The architecture-related focus group involves architects, both professionally and academically focused, experts on design software and the various fields of architectural design. The focus group is not limited to users who currently use advanced design application software (e.g. Rhinoceros3D) in their technology stack and their design workflows, but deliberately is open to allow for comparison with other existing workflows and tools, applicable to non-specialized software users.

Being related to the architecture use cases (PUC1 and PUC2), this focus group includes a wide spectrum of expertise in the creative industry, ranging from architecture concept design, architectural design of temporary elements and installations, indoor and outdoor, construction detailing, construction management to the production of sales and communication material.

More specifically, architectural studios, as well as autonomous working artists, are represented in the focus group. Regarding academic communities, a broad spectrum of users is involved, ranging from teaching staff specialized in advanced design technologies, field experts of design software, academic staff related to architectural, urban and landscape design, as well as students of all levels, undergraduate, postgraduate, PhD candidates and members of broader communities related to architecture and design.

Up to now, the group consists of 16 members derived from AUTH and HdM user partners while its members are expected to be increased in the next months of the project.

Game development specialists

The video game-related focus group articulates a user community for game design and Virtual Reality (VR) applications and experts from related fields. More specifically, it includes game developers and game designers, content creators and end-users from gaming companies and experts on the field. Another major part is the creative directors in game



development companies, whose main job is to have a vision for the game, develop a game design document and make sure all the necessary resources are available or can be made available for the game designers and the developers. Regarding game developers and game designers, the group mainly contains game developers that work in the development of 3D games using the Unity game Engine and game designers for 3D models who would eventually be the target users of the assets produced by the V4Design platform. The focus group also includes media production professionals and specialists for documentaries and VR productions from DW.

So far, the group consists of 13 members derived from NURO and DW user partners while its members are expected to be increased in the next months.



7 STANDARDISATION BODIES

V4Design will be instrumental in both the implementation of existing standards, as well as the creation of new standard recommendations. Below is a planning of the actions towards standardisation for each research WP.

7.1 WP2-related standardisation bodies

Standard body	Responsible	Initial Actions	Definition of potential standard contribution
SIMMO	CERTH	Structure the indexing storage of V4Design repository for data collection using SIMMO.	Multimedia indexing will be based on the Socially Interconnected and Multimedia-Enriched Object (SIMMO), which was developed in cooperation with FP7 ICT MULTISENSOR and FP7 ICT REVEAL projects and further used in H2020 KRISTINA and other projects. V4Design will adopt SIMMO model for the storage of scraped content and investigate SIMMO standardisation in cooperation with other projects.
EDM	EF, CERTH	Include EDM in desk research for consideration as standard ontology for the V4Design database	Adoption and promotion of the European standard data model for cultural heritage objects.

7.2 WP3-related standardisation bodies

Standard body	Responsible	Initial Actions	Definition of potential standard contribution
Universal Dependencies	UPF	Organise a Shared Task that makes use of semantic dependencies (ends in July 2018)	Development and promotion new semantic annotations aligned with UD syntactic standards.
WDL	CERTH	To be applied in image and video analysis tasks.	Adopt digital image standards, such as TIFF, JPEG, JPEG2000 to define the image files to be read by image processing techniques

7.3 WP4-related standardisation bodies

Standard F	Responsible	Initial Actions	Definition of potential standard
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body			contribution
MPEG-4, MPEG-7, AVI	CERTH	To be applied in video analysis tasks.	Adopt MPEG-4, MPEG-7, AVI to include several encoding/decoding and multimedia metadata to the processed video data
BIM	KUL	Actively participate in BIM working group in the scope of the work in WP5	Standardisation effort on the use of linked data in BIM: the linked data working group of Building Smart.

7.4 WP5-related standardisation bodies

Standard body	Responsible	Initial Actions	Definition of potential standard contribution
SHACL	CERTH	To be used during the definition of the semantic representation.	Adoption of the W3C recommendation for validating RDF graphs and defining inference rules
SPARQL	CERTH	It will provide the standard language for queries	V4Design will use SPARQL as the query language.
OWL2	CERTH	To be used to formally define semantics and annotations.	V4Design ontologies are represented in OWL2.
SPIN	CERTH	To be used as a rule language	Adoption of a SPARQL-based rule language
Web Annotation Data Model	CERTH	To be used as the standard-based annotation model	V4Design annotation follows the Web Annotation Data Model
KRISTINA and EOPN projects	CERTH	Reuse the modelling patterns relevant to V4Design, such as the DUL patterns Knowledge graphs. More specifically, will reuse the specialisations of the DUL onto for formally capturing domain knowledge, and the specialisati the Web Annotation Data Mod defined in EOPEN for capturing events and observations	



8 DISSEMINATION IMPACT ASSESSMENT

In order to quantify and evaluate the dissemination actions, V4Design has already set specific measurable goals with respect to the aforementioned planned activities. Specifically, the following figures are set as minimum expected dissemination targets:

Table 9: Measurable dissemination goals

Tool	Metric	Target	Current Value
V4Design website	 Site visits per week Downloads per week Track download numbers from McNeel website 	Measurement: Matomo Analytics; 25% increase of site visits per year is expected.	829 page visits51 downloads
V4Design Final Demonstration Workshop	Number ofParticipants (by target group)	Target: 200 participants	Not applicable at the moment
Social Media	The followers and engagement (likes and comments) in Facebook, LinkedIn and Twitter	Target: 1000 views, 500 followers and engagement	Facebook: 41 page likes // 43 followers Twitter: 34 followers LinkedIn: 14 connections Maximum post reach (Facebook): 2.1K
Publications	Number of • publications in technical, scientific and academic conferences and journals	Target: at least 20 publications	• 15 publications
User Group	Number of usersDiversification	 At least 20 users At least 3 from each domain (semantics, language analysis, 3D reconstruction and video analysis, designers) 	 20 users Various domains (data science, knowledge management, VR/AR, Games, Film production, 3D Design)



9 CONCLUSION

In this deliverable, we summarised the dissemination goals and strategies of V4Design and provided updates regarding the dissemination activities that were done during the first 12 months of the project. In addition, the dissemination report included measurable targets such as number of visitors (for web traffic), number of events V4Design participated, as well as number of achieved publications. D8.4 also included the status of the User Group (UG), its categorisation and the cooperation plan. The information regarding the dissemination plan, calendar of events and material such as flyers will be constantly updated.

This report contains the dissemination activities that mark the completion of the first 12 months of the project as well as their statuses. The dissemination activities for rest of the project will be reported in D8.6 (M24), and D8.7 (M36).



REFERENCES

Kontio, Jyrki, Laura Lehtola, and Johanna Bragge. "Using the focus group method in software engineering: obtaining practitioner and user experiences." *Empirical Software Engineering, 2004. ISESE'04. Proceedings. 2004 International Symposium on.* IEEE, 2004.