



## MindSpaces

Art-driven adaptive outdoors and indoors design

H2020- 825079

### D8.3

# Report on Standardization, Dissemination, and Collaboration Activities

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<b>Abstract</b>	
D8.3 presents the first version of the project's report on the dissemination, standardisation	

and collaboration activities. It presents the updated dissemination material, and reports on MindSpaces press releases, newsletters and social networks posts. Additionally, the deliverable reports the participation to scientific and commercial events and demonstrations during the first 18 months of the project, the relevant publications in scientific journals and conferences, as well as the updated dissemination targets for the upcoming year. D8.3 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

D8.3 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 18 months the MindSpaces website reported more than 2,100 website visits from Europe, Asia and America. In addition, updated versions of the leaflet and posters have been released, along with additional means of dissemination included press releases, newsletters, and the creation of a promotional video.

Secondly, the deliverable reports the participation to scientific and commercial events during the first 18 months of the project, the relevant publications in scientific journals and conferences, as well as the updated dissemination targets for the upcoming year. Specifically, MindSpaces was represented in more than 40 relevant events, reported collaboration with more than 5 research projects, while 10 scientific publications and 2 media publications were achieved during the first 18 months.

Thirdly, D8.3 reports the updates of the User Group including details on the list of participants and their (foreseen) involvement to the project. During the first 18 months MindSpaces managed to contact 17 User Group members through partners contacts, attracted 12 user group members by request, and have established many more currently under contact. The involvement of the user group during the second half of MindSpaces is expected to be more intense and provide concrete feedback on the evaluation phase.

Finally, the deliverable details the planned standardisation activities and dissemination impact assessment.

## Abbreviations and Acronyms

<b>AEC</b>	Architecture, Engineering and Construction
<b>AR</b>	Augmented Reality
<b>DoA</b>	Description of Action KPI= Key Performance Indicator.
<b>ICT</b>	Information and Communication Technology
<b>KPI</b>	Key Performance Indicator
<b>NDA</b>	Non-Disclosure Agreement
<b>PUC</b>	Pilot Use Case
<b>UG</b>	User Group
<b>VR</b>	Virtual Reality
<b>WP</b>	Work Package

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# 1 INTRODUCTION

The objective of D8.3 is to present the dissemination activities and material developed during the first 18 months of the project and the future dissemination plans, as well as the User Group and the standardisation activities.

This report and the dissemination documents and events outlined are targeted toward those interested in the MindSpaces platform. This especially includes academic and professionally oriented architects, designers, artists, experts on design software and the various fields of architectural design, architectural studios, as well as professional stakeholders and business owners and managers surrounding the built environment who can benefit from this research.

Within this context, this deliverable reports on the current dissemination material, social media and web presence and interactions. It reports on the dissemination activities of the consortium over the first year and a half including scientific and industry events, scientific and industry publications, collaborations, workshops, and demonstrations. It also includes the updated User Group(UG) members and activities and outlines the plan for involvement of the UG in the rest of the project. Finally, the deliverable presents standardisation activity during the first 18 months of the project.

## 2 DISSEMINATION STRATEGY

The strategy for the dissemination of MindSpaces was laid out in D8.1 – Initial Dissemination Plan and Communication Material. The deliverable gives an overview of the plan for dissemination including the foreseen materials, digital presence, targeted events and publications, and user group involvement to successfully communicate the project to key stakeholders and communities related to MindSpaces.

The key principles of the dissemination plan are:

- **Raise awareness** – bring people outside the project who are unaware of it in
- **Inform** – inform the people in that community of the context and key principles of the project
- **Engage** – get vital feedback from the community to effectively shape the project
- **Promote** – show the value of outputs and results to potential partners, users and stakeholders

### Target Audiences

D8.1 describes the importance of identifying and reaching the right audiences for people to benefit from the MindSpaces platform. The consortium identified the key individuals, groups, and organisations and their specific interests in the project and set up the communication channels and dissemination activities to effectively reach out to them.

The definition of the key target audience was taken and used to plan and choose the members of the user group and participants for the user evaluations and workshops.

MindSpaces knowledge and results were shared with groups identified as the target audiences including the scientific community, other European research projects, and standardisation bodies.

### Key Messages

D8.1 identifies the necessity for defining the key message for each target audience. This was used to set up the different communication channels and is reflected in the choices and messages distributed on social media platforms such as Instagram, Twitter, Facebook, and LinkedIn and through the participation in certain scientific and industry related conferences.

### Timing of Actions

As defined in D8.1, it is important to decide on which different dissemination activities will be most relevant for each case during the lifecycle of the project. This means that the conveyed messages must be aligned with these cases and circumstances. 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 the project. Based on the experience from previous projects and partner’s expertise, the proper timing of actions was determined for all dissemination activities. It is also important to think about the communication timetable and

requirements of the target audience. For example, there are time periods during the academic year when it is difficult to reach academic staff (e.g. at the start of the term or during examinations) and times during the year when professionals are away or difficult to reach.

This is considered in the project when publishing online or communicating with expert groups for feedback on the work of MindSpaces. Our messages were sent out several times, through varying channels to increase the chances of reaching the target audiences.

## 2.1 Planned Dissemination Materials

A set of dissemination materials were identified and initially planned in the DoA and set up at the beginning of the project to successfully promote the project through industry events, scientific and industry conferences, workshops, online channels and other means. These materials included the following:

- The project website set up in the first three months of the project and running throughout the full length of MindSpaces and two years beyond the project's completion.
- A strong MindSpaces social media presence over a variety of social media networks.
- An effective Communication kit including a flyer/leaflet, a poster, and an overview presentation
- A Fact sheet, containing quick information on the project, useful for info booths at fairs and conferences.
- Several press releases on the project's work and progress
- Several Newsletter editions with news items on the progress of MindSpaces.

All 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

As stated previously, the dissemination strategy included participation in key events as well as setting up a variety of dissemination channels and products. The methods of dissemination that are planned to be leveraged in MindSpaces are further detailed in Section 3 of D8.1. These dissemination activities correspond to specific actions that are planned to 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 year and a half of the project.

### 3 SUMMARY OF PERFORMED DISSEMINATION ACTIVITIES

#### 3.1 Website Updates

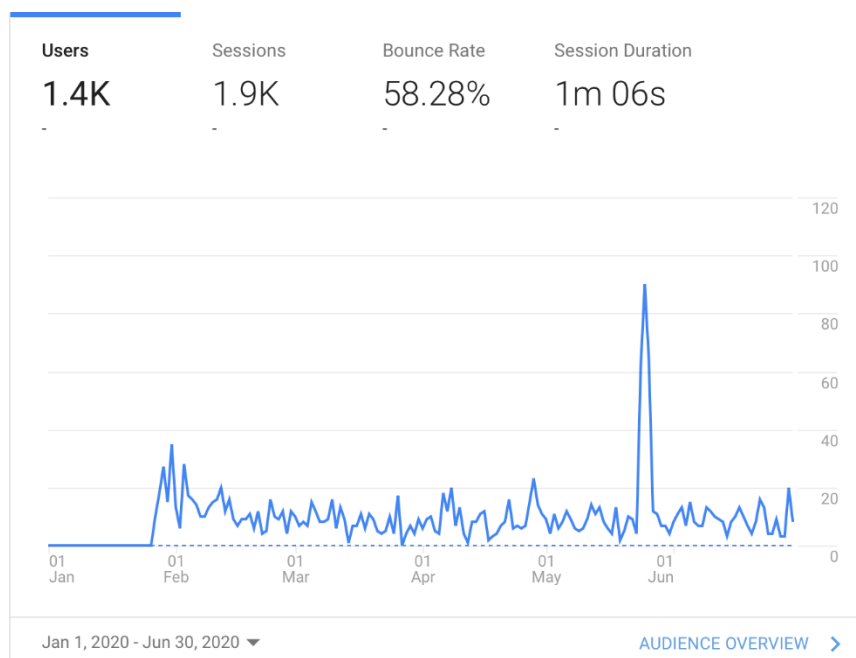
As one of the most versatile dissemination tools of the project, MindSpaces website functions as the main portal of information, updates, and actions with plenty of information available to all audiences. As stated already in D8.1 the website plays a crucial role to inform about the project's objectives, actions and engage the community in the process.

Although the website was developed and presented in D8.1, new updates have been made to adapt to new actions and re-design and fine tune certain parts of the website.

In subsection 3.1.1 and 3.1.2 we briefly present the website traffic, objectives, updated from D8.1. Subsection 3.1.3 describes the update website structure and navigation scheme, alongside new pages, and sections.

##### 3.1.1 Website Traffic

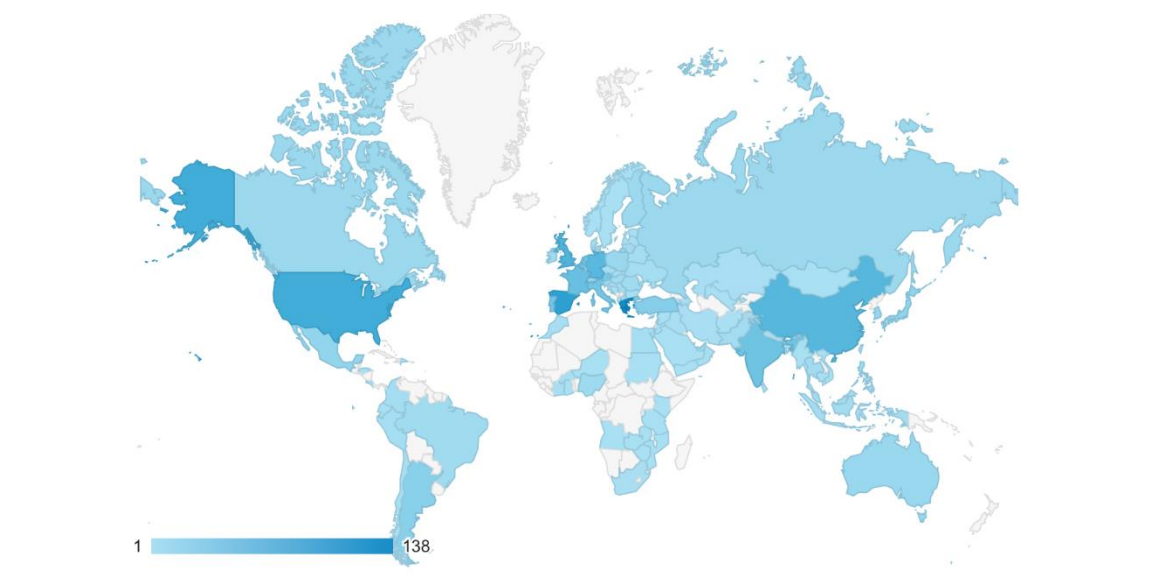
The project's website was set up as a dissemination tool among the MindSpaces consortium and the audience interested in the project. To validate whether the website has achieved its goals the web page analytics were gathered, summed, and analysed. The results are shown in the following figures. Details about the website traffic, such as the number of visitors over time (for the last 6 months), the average duration of a visit and the bounce ration are shown in **Figure 1**. **Figure 2** shows the country of origin of the MindSpaces website users and **Figure 3** shows the Visitors' map.



**Figure 1** MindSpaces website traffic (Source: Google Analytics)

Country ?	Acquisition			Behavior		
	Users ? ↓	New Users ?	Sessions ?	Bounce Rate ?	Pages / Session ?	Avg. Session Duration ?
	1,374 % of Total: 100.00% (1,374)	1,375 % of Total: 100.07% (1,374)	1,865 % of Total: 100.00% (1,865)	58.28% Avg for View: 58.28% (0.00%)	1.97 Avg for View: 1.97 (0.00%)	00:01:07 Avg for View: 00:01:07 (0.00%)
1.  Greece	138 (9.96%)	135 (9.82%)	227 (12.17%)	50.22%	2.38	00:01:31
2.  Spain	104 (7.51%)	102 (7.42%)	163 (8.74%)	58.90%	2.14	00:01:56
3.  United States	87 (6.28%)	87 (6.33%)	92 (4.93%)	78.26%	1.39	00:00:27
4.  United Kingdom	73 (5.27%)	72 (5.24%)	115 (6.17%)	53.04%	1.79	00:00:32
5.  China	70 (5.05%)	69 (5.02%)	73 (3.91%)	65.75%	1.34	00:00:08
6.  Germany	66 (4.77%)	64 (4.65%)	92 (4.93%)	58.70%	2.13	00:00:43
7.  France	54 (3.90%)	53 (3.85%)	75 (4.02%)	62.67%	1.61	00:00:24
8.  India	50 (3.61%)	50 (3.64%)	54 (2.90%)	61.11%	1.52	00:00:48
9.  Belgium	47 (3.39%)	47 (3.42%)	66 (3.54%)	57.58%	2.83	00:01:37
10.  Netherlands	46 (3.32%)	46 (3.35%)	72 (3.86%)	68.06%	1.82	00:01:02

**Figure 2** MindSpaces most frequent countries visiting the website (Source: Google Analytics)



**Figure 3** MindSpaces website Visitor Map (Source: Google Analytics)

### 3.1.2 Website objectives

The project's website ([www.mindspaces.eu](http://www.mindspaces.eu)) functions as the main portal of information for dissemination purposes. Updated from D8.1 and briefly stated the objectives of the website are:

- Present MindSpaces concept, structure, overall objectives and expected impact of the project
- Highlight the latest news and actions regarding MindSpaces activities
- Present latest reports and publicly available deliverables of the project

- Inform about physical meetings and exhibitions of the project
- Inform about user group meetings such as open days, demonstrations, workshops etc.
- Engage user group and interested parties in the project
- Allow visitors to search and find information about the project
- Showcase the consortium partners
- Inform about synergies with other projects and individuals
- Provide relevant communication and dissemination material
- Provide contact details to the project coordinator and consortium partners
- Informing about latest developments of MindSpaces
- Attract new audiences
- Inform about artist open calls and provide submission details and instructions
- Connecting with community experts related to the MindSpaces research fields
- Connect with other dissemination and communication channels of MindSpaces (Facebook, Twitter, LinkedIn, Instagram)
- Allow newsletter subscription
- Allow user group subscription
- Ensure further dissemination and web presence of the project after its lifespan

MindSpaces website is a dynamic platform where current and past developments are presented. It uses a clear language to communicate its section and page topic and aims to be accessible to all interested parties.

### 3.1.3 Website structure

MindSpaces website has been developed around the structure outlined in D8.1 that was deployed during the first months of the project. Based on this framework, consortium partners further developed the structure of the website to meet its main goals and better function for visitors. The changes and new functions are briefly presented below.

#### - Navigation

The same six sections menu element was maintained from the initial version of the website and was redesigned in terms of graphic elements and layout. The menu bar, located on the upper part of each page, functions as a navigation menu to all aspects of the project and its communication activity. More specifically, the header menu contains the same 6 sections (Home; Project; Partners; Outcomes; News; Contact) and a new section (Open Call) leading to a landing page for the MindSpaces open call for artist. The header main menu is present at all pages and is accessible at all time during scrolling, to facilitate access to it.

At the bottom of all pages the footer allows further navigation to other communication channels such as social media. The footer remained the same.

## MindSpaces

HOME Open Call PROJECT PARTNERS OUTCOMES NEWS CONTACT Q

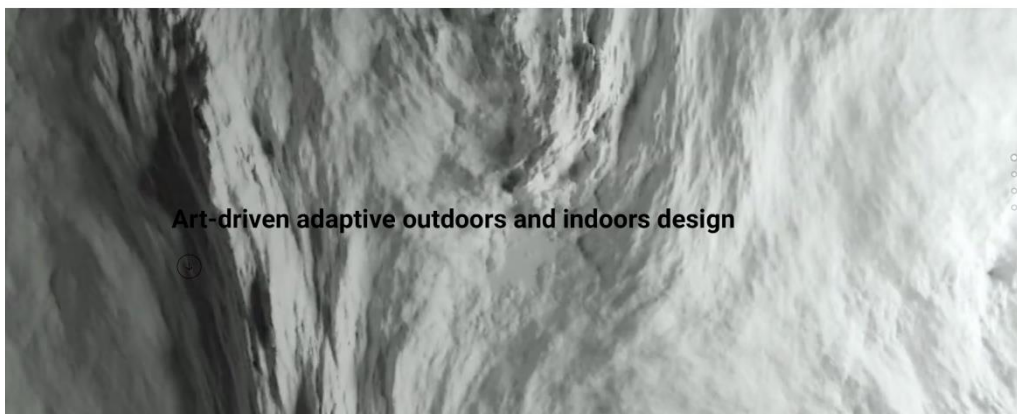
**Figure 4** Updated header menu

### - Homepage

The homepage was updated around a vertical slider with 4 parts. The first slide contains a small video of an art piece and contains information about the project. The second slide informs about the MindSpaces open calls for artists and contains a button that leads to additional information. The third slide is about the latest news of the project and links to them and finally the fourth slide briefly presents the consortium partners of MindSpaces.

## MindSpaces

HOME Open Call PROJECT PARTNERS OUTCOMES NEWS CONTACT Q



**Figure 5** MindSpaces Homepage

### - Open Call page

A new section and landing page was added to provide all the necessary information and links for the MindSpaces open call for artists. This page briefly presented the characteristics, deadlines, requirements and guidelines of the call, links to extended documents and finally a link to the submission platform. This page served in both, now complete, open calls for artists.

# MindSpaces

[HOME](#) [Open Call](#) [PROJECT](#) [PARTNERS](#) [OUTCOMES](#) [NEWS](#) [CONTACT](#) [Q](#)

## Open Call

MindSpaces is a 3-year research project financed by the European Commission STARTS/Lighthouse projects started on Jan 1th 2019. To encourage collaboration of research projects and artists STARTS funds 'STARTS residencies' of artists in technology institutions and of scientists and technologists in studio of artists. In this project, artists, scientists, architects, engineers and technology experts closely collaborate under a novel working model scheme to propose innovative designs to address societal challenges faced by cities as they expand, and the evolving needs in functionality and emotional resonance of modern day workplace and housing interiors. Art has the capacity to transcend established theoretical and conceptual frames and act in cross-disciplinary ways, as it provides space for what is called as 'lateral' thinking, that is to address issues with an 'out of the box' approach.

MindSpaces is looking for artists to develop, implement and assess art installations, in collaboration with researchers, in order to highlight the cultural significance of urban sustainability issues, as well as to offer potentially paradigm-shifting designs of indoor work and living environments.

The project proposed by the applicants should be connected with one of the following use cases of the MindSpaces project.

- Outdoors urban environment
- Inspiring Workplaces
- Emotionally-sensitive functional interior design

The residency is open to artists of all types and experience, but preference will be given to those whose practices have previously engaged with science, emerging technologies, and/or interactive installations, AR/VR installations, architectural design and art in public spaces. The call is open to anyone.

**Submission Deadline:**

**January 7th 2020**

(Second Open Call)

**Figure 6** MindSpaces Open Call page

### - Dissemination material page

A new section was added under the tab of 'Outcomes'. This page, titled 'Dissemination material', contains all relevant Audio and Visual material of MindSpaces and the files of the Communication kit.

### - Other pages

All other pages and sections remained the same as deployed and described in D8.1 during the first months of the project.

## 3.2 Social Media Channels & Analytics Updates

MindSpaces's goal is to connect with wide audience and use the capabilities offered by social networks to disseminate its achievements. For that reason, MindSpaces has created the following social media accounts which have been linked through the projects website:

- Facebook: <https://www.facebook.com/MindSpaces.eu>
- Twitter: <https://twitter.com/MindSpacesEU>
- LinkedIn: <https://www.linkedin.com/in/mindspaces-eu-917baa177/>
- Instagram: <https://www.instagram.com/mindspaces.eu/>

### 3.2.1 Facebook

MindSpacesFacebook page has 535 followers with 494 total likes during the last 18 months.



### 3.2.2 Twitter

MindSpaces presence on Twitter starts in January of 2019. Overall, has 127 followers with and engagement of 36850 impression for the last 18 months.

### 3.2.3 LinkedIn

As part of its social media presence, MindSpaces project has a LinkedIn account to allow for professional social interactions. The MindSpaces profile has 54 connections with 182 post views.

### 3.2.4 Instagram

As part of its social media presence, MindSpaces project has an Instagram account to allow for professional social interactions. The MindSpaces profile has 167 followers with 169 likes.

## 3.3 Updated Communication Kit

As part of the communication strategy of the project a communication kit was designed to ensure a consistent presentation of MindSpaces to the public. This communication kit consists of a leaflet, a fact sheet, a poster. As stated in D8.1 these documents are updated from time to time to ensure up to date information and better illustrate the activities of MindSpaces. The files of the communication kit are available in [mindspace.eu/dissemination-material/](https://mindspace.eu/dissemination-material/).

### 3.3.1 Leaflet

MindSpaces leaflet is a three-fold A4 paper size document that contains all important information about MindSpaces concept and structure. The leaflet is available at public events and presentations of the MindSpaces project to all interested parties.

## Mindspaces

### CONCEPT

#### Vision

MindSpaces will bring together artists, creatives and technology experts to produce AR/VR installations representing emotionally and functionally adaptive designs of outdoors and indoors spaces.

#### Context

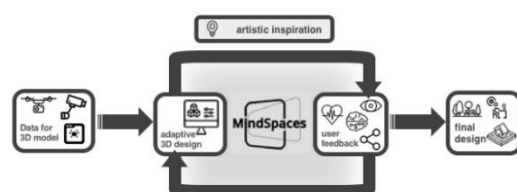
The design of space, on architectural and urban scales has been shown to significantly affect the emotional, cognitive wellbeing of individuals, and to influence the functionality and effectiveness of indoors and outdoors spaces in manners that have often been overlooked in the past. MindSpaces will bring together artists, creatives and technology experts to produce AR/VR installations representing emotionally and functionally adaptive designs of outdoors and indoors space. Artists will incorporate these responses into "living" installations, adapting them online to elicit positive emotional and behavioral feedback. This proposal is at the vanguard of a new wave of designers, architects and engineers that affirm the necessity of an interdisciplinary approach that integrates novel technologies to inform design. By integrating approaches from neuroscience, physiology and psychology with architectural research, sociological and ethnographic methodologies, human experience can be directly linked to design by correlating specific measures of the built environment (input) with quantified measures of the brain's and body's responses (neural, physiological and psychological responses), as well as sociological, behavioral and economic outcomes (output). Using neuroscientific tools objective measurements can now be used along with traditional subjective evaluations.

#### Overall Goal

MindSpaces is a STARTS lighthouse project that aims to create the tools and develop the solutions for adaptive and inclusive spaces that dynamically adapt to emotional, aesthetic and societal responses of end users, creating functionally and emotionally appealing architectural design.

Original 3D models of spaces to be developed by architects and artists will be used as a basis to propose innovative, art-inspired outdoors environments for a city, indoors workspace and house re-design. The design ideas will be integrated artistically in VR (Virtual Reality) environments, which will be modified in real time in response to EEG (Electroencephalography), physiological and environmental measurements of end users. This will lead to dynamic designs that immediately adapt to users' emotional and functional needs.

### PROJECT ARCHITECTURE



Project website: [www.mindspaces.eu](http://www.mindspaces.eu)

#### Partners



**Project Coordinator:**  
Center for Research and Technology Hellas  
Information Technologies Institution (CERTH-ITI), GR

Stefanos Vrochidis (Project Coordinator)  
Telephone: +30 2311 257 754  
Email: [stefanos@iti.gr](mailto:stefanos@iti.gr)

Horizon2020  
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825079

Figure 7 MindSpaces Leaflet side 1

## Mindspaces

### OBJECTIVES AND ACTIVITIES

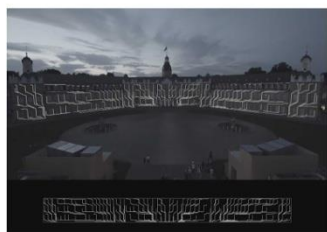
#### Objectives

Artists and technology experts will closely collaborate under a novel working model scheme to propose innovative designs to address societal challenges faced by cities as they expand, and the evolving needs in functionality and emotional resonance of modern day workplace and housing interiors.

- Bring together artists, creatives and technology experts in the realm of techno science art
- Create tools and develop solutions for adaptive and inclusive spaces
- Dynamic adaptation to emotional, aesthetic and societal responses of end users
- Creating functionally and emotionally appealing architectural design

#### Activities

- Emotional Cognitive Sensing
- Emotional response analysis from EEG signals
- Emotional response analysis from physio signals
- Visual response assessment
- 3D models extraction
- 3D model extraction from archival visual material
- 3D reconstruction of outdoors environments
- 3D reconstruction of interior environments
- Design, emotion content extraction and production from multimodal data
- Aesthetics and style (design) content extraction from visual data
- Extraction and production of content relevant to design, emotion, from text data
- Semantic integration of emotion and environment(sensor) inputs
- Data representation integration and reasoning
- Adaptive 3D-models based on semantic reasoning



### USE CASE 1

#### Outdoors urban environment

**Users:** City councils and municipalities, architecture offices architecture, academic units, VR/AR companies

**Scenario:** Interventions in City de Hospitale

**Application:** Designing of improved, attractive city spaces

### USE CASE 2

#### Inspiring workplaces

**Users:** Big companies, architecture offices

**Scenario:** Designing for Smart workplaces

**Application:** The designing of friendly, emotionally sensitive and functional interior or workspaces and interior objects.

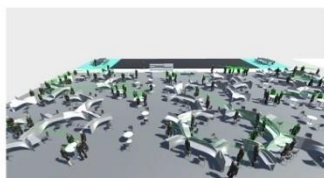
### USE CASE 3

#### Emotionally-sensitive functional interior design

**Users:** Associations for the elderly, nursing homes, architecture offices, people that want to refurbish their dwellings

**Scenario:** Seniors' home re-design

**Application:** The designing of functional home interiors



### IMPACT AND RESULTS

#### Expected Impact

MindSpaces will achieve the following impacts:

- The demonstration of value added to industry and society in having artists contribute to the development of radically new products, services and processes
- Signaling effect for future uptake of art-driven solutions to concrete industrial and societal challenges and art driven user-centered products and services
- Efficient working models how art-technology collaboration can contribute to innovative processes in research, industry and society
- Burgeoning STARTS ecosystem involving industry, technology, research, end users, societal stakeholders, and the Art world that reconciles and unites the goals and thinking of industry and technology with that of the Art world

#### Expected Results

The final outcome of MindSpaces includes:

- Introduce collective mind design
- VR and EEG can be leveraged to use sentiments in human interaction in order to build better urban spaces
- Provide enhanced 3D models of outdoors and interior spaces to industries that rely on them (i.e. architects)
- Help architects build more functional and appealing interior and exterior spaces at architectural and urban scale
- Improved architecture design tools that integrate feedback on emotional and functional aspects of design-propositions
- The platform will allow unified access and consumption of heterogeneous, textual and visual content



Figure 8 MindSpaces Leaflet side 2

### 3.3.2 Factsheet

MindSpaces fact sheet contains information about the project's goals, key issues, and activities alongside the consortium partners.

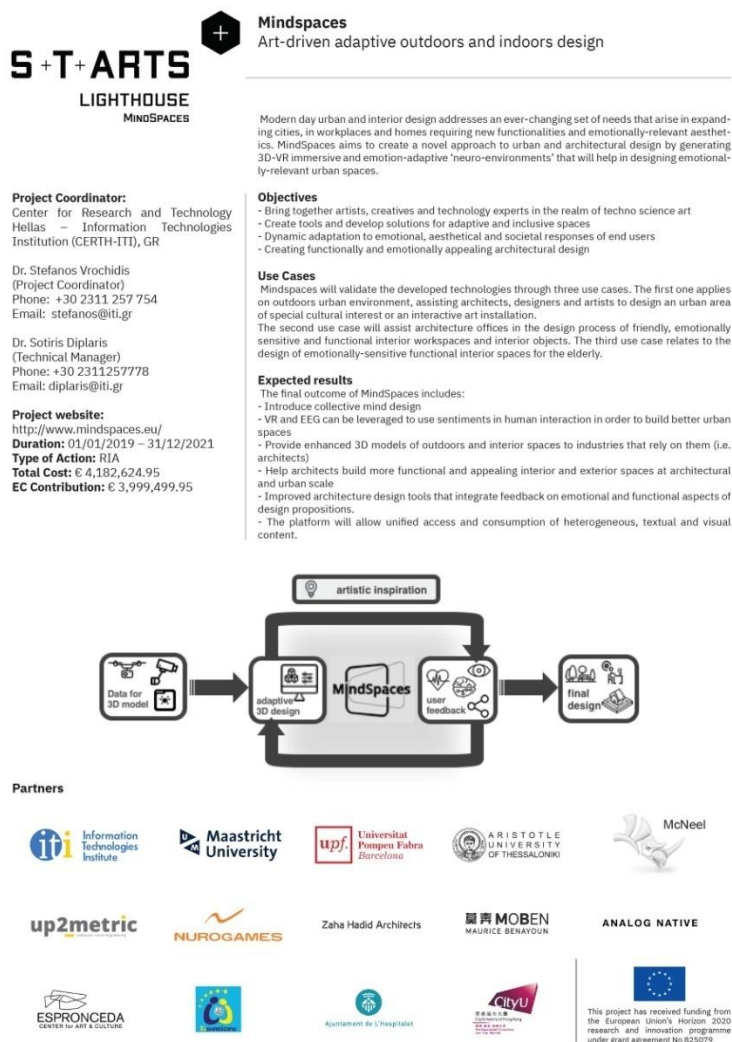


Figure 9 MindSpaces Factsheet

### 3.3.3 Poster

MindSpaces poster was updated recently and presents an overview of the project.



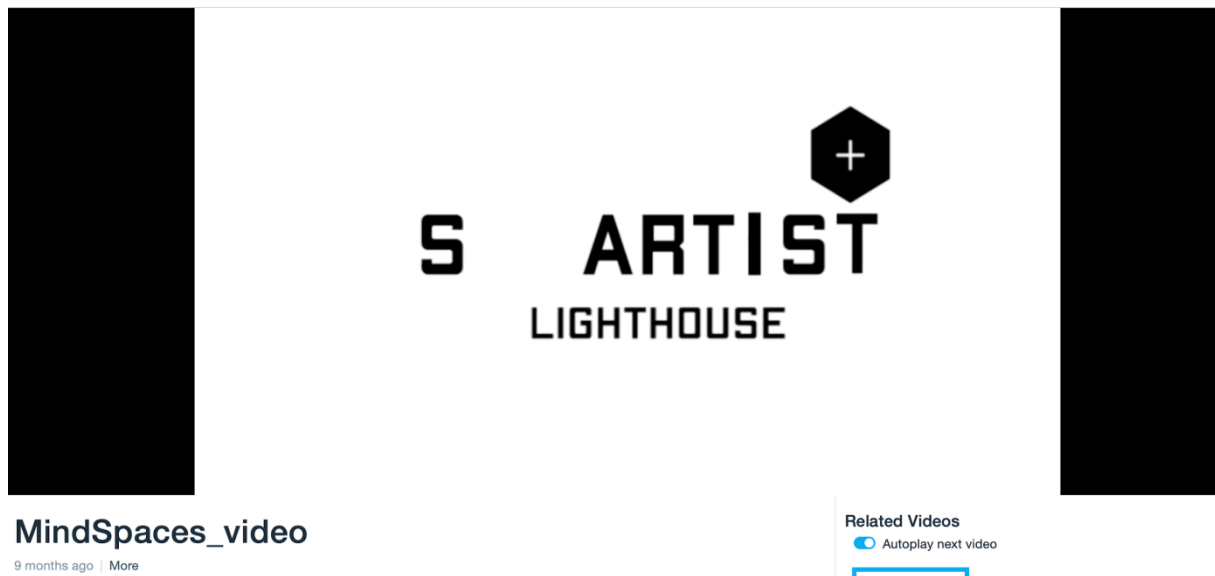
Figure 10 MindSpaces Poster

## 3.4 Audio Visual Material

### 3.3.4 MindSpacesVideo

A small video was created to present the overall objectives and activities of MindSpaces. The video contains visuals and audio regarding the activities and objectives of the project. The video is available on the platform of Vimeo and through the MindSpaces website in the Dissemination material page.

MindSpaces video can be found here: <https://vimeo.com/357301826>



**Figure 11** MindSpaces Video

## 4 DISSEMINATION EVENTS & VENUES

MindSpaces has applied a varied approach in selecting effective opportunities and methods to communicate to reach target audiences with the needed repetition and focus. This has been to ensure reaching all the audiences and aligning them with their key message. Dissemination actions, including the presentations of MindSpaces to conferences and events, presentations and collaborations to the consortia of other projects, as well as the submission of scientific and industry publications in conferences/workshops relevant to the research areas of the project up to M18 are documented in the following sections.

### 4.1 Events, Conferences, Fairs

Table below lists the presentations of MindSpaces in conferences and events that were conducted in the first 18 months of MindSpaces, including the target audiences that were represented there. Following **Table 1**, key events are described in more detail.

#### 4.1.1 Table of Events

**Table 1** Table of MindSpaces Presentations, Conferences, Demonstrations and Events

#	Dissemination Action	Target Audience		
		End Users + Stakeholders	Academic / Researchers	Software Developers
1	<b>Architecture of the Future Conference</b> , "Agent Based Parametric Semiology + MindSpaces," Kiev, Ukraine Oct 11, 2019 (ZHA)	Workplace Owners / Developers; Business Stakeholders; Architects; Artists; Computational Designers;	Students; Architecture /Computational Design Researchers;	Architectural Tech Developer Reps
2	<b>Second Workshop on Multilingual Surface Realization (MSR @ EMNLP)</b> Hong Kong, November 3rd, 2019 (UPF)		Natural Language generation researchers	
3	<b>Second Workshop on Multilingual Surface Realization (MSR @ EMNLP)</b> Hong Kong, Maurice Benayoun Keynote, November 3rd, 2019 (MoBen/CityUHK)		Natural Language generation researchers	

4	<b>DLA 2020 Virtual Conference</b> , Harvard Graduate School Cambridge, June 2-3 2020 (McNeel)	Academics and professionals in digital landscape architecture and urban spaces	artists, designers, landscape architects, engineers, software engineers	software, plugin developers for Rhino and Grasshopper, AI
5	<b>Shape to Fabrication Conference 2020</b> , London April 18- 22 (McNeel) (postponed due to Covid19)	Academics and professionals in AEC	engineers, architects, computer scientist, software engineers	Third-party plugin developers for Rhino and Grasshopper, AI
6	<b>ICT Proposers' Day 2019</b> , Helsinki 19-20 September 2019 (CERTH)		academics, researchers, industrial stakeholders, SMEs and government actors	
7	<b>S+T+ARTS Talks in Genova</b> , Genova 4 Nov 2019 (CERTH)	Academics and professionals in arts and engineering	artists, designers, architects, engineers	
8	<b>Thessaloniki Design Week</b> , Thessaloniki, May 5-12, 2019 (CERTH)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
9	<b>Balkan Architecture Biennale</b> , International Conference, Belgrade, Serbia, May 14-21, 2019 (AUTH)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
10	<b>Ars Electronica</b> , STARTS days, May 5-12, 2019 (ESP)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
11	<b>Is this Tomorrow? Art and Architecture</b> , 13 February London, 2019 (ESP)	Professionals in Art and Design		
12	<b>Vertigo Forum Art &amp; AI C. Pompidou, STARTS Residences days/ Art Science Residences Conference IRCAM</b> , Paris 26 Feb-3 Mars 2020 (ESP)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	



13	<b>Workshop for the culture of Thessaloniki</b> , Goethe-Institut Thessaloniki, 16-17 June (CERTH)	Academics and professionals in arts and culture	Artists	
14	<b>Digital catch up with Maurice Benayoun, Digital Innovation for Culture</b> , MEET , June 30, 2020 (MoBen/CityUHK)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
14	<b>Digital catch up with Maurice Benayoun, Digital Innovation for Culture</b> , MEET , June 30, 2020 (MoBen/CityUHK)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
15	<b>Derrick de Kerckhove Lecture CAFA: a new Art Collective with Maurice Benayoun</b> , Online Open Lecture, School of Creative Media, The City University of Hong Kong, CAFA (Central Academy of Fine Arts, Beijing), May 22, 2020 (MoBen/CityUHK)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
16	<b>Fifth International Online New Media and Education Congress</b> , Anilla Cultural, May 5-6, 2020 (MoBen/CityUHK)	Academics and professionals in arts and engineering	artists, designers, architects, engineers	
17	<b>LUX AETERNA, The 25th International Symposium on Electronic Arts, (ISEA2019)</b> , ACC, Asia Culture Centre, Gwangju, Republic of Korea, June 22-July28, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
18	<b>Content Insight</b> , YSK Media (Hosted by Korea Creative Content Agency, KOCCA which is one of the Korean government agencies), Seoul, Republic of Korea, December 9, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
19	<b>Artist Talk, Digital Art Festival Taipei</b> , MOMA, Taipei, ROC, October 25, 2019 (MoBen/CityUHK)		artists, designers, architects, engineers	



20	<b>ACM MULTIMEDIA 2019 Conference</b> , ACM Multimedia, The NICE ACROPOLIS Convention Center, Nice, France, October 21-25, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
21	<b>Sustainable Transformations Seminar Day</b> , ACM Multimedia BOZAR (Brussels), Aalto University (Helsinki), The Centre for Fine Arts (BOZAR), Brussels, Belgium, October 17, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
22	<b>ISEA2019 x Hyundai Motorstudio</b> , Seoul ARTLAB   Hyundai Motor Company, Hyundai Motorstudio Seoul, Seoul, Republic of Korea, June 27, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
23	<b>ISEA2019 VoV IVO</b> , Art Center Nabi, Tazak Madang, Seoul, South Korea, June 5, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
24	<b>International Symposium on Chinese Cinema in the 21st Century</b> , Fujian Normal University, Fuzhou, China, May 10-12, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, artists, engineers	
25	<b>First Earth Soundscape Week</b> , Tobias Klein Keynote, Xinghai Conservatory of Music, Guangzhou, PRC, April 19-22, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, artists, engineers	
26	<b>100 Years Bauhaus – Designing The Future symposium</b> , The University of Hong Kong, University Museum and Art Gallery, Hong Kong, SAR, April 12, 2019 (MoBen/CityUHK)		academics, researchers, artists, engineers	

27	<b>The Oval partnership "O Talk"</b> , Hong Kong, SAR, June 14, 2019 (MoBen/CityUHK)		academics, researchers, artists, engineers	
28	<b>CADAF Online</b> , Maurice Benayoun, Tobias Klein and Nicolas Mendoza, (Artists), June 25-28, 2019 (MoBen/CityUHK)		academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
29	<b>LUMIÈRE / ESPACE / TEMPS - Autour de Nicolas Schöffer - Avignon Arts Contemporains</b> , Paris, France, April 4 - June 27, 2020 (MoBen/CityUHK)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
30	<b>RTS_ ReTranSens- 14th Digital Art Festival Taipei</b> , MOCA, Taipei, ROC, October 25-November 10, 2019 (MoBen/CityUHK)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
31	<b>Nuit Blanche Paris</b> , 100 ECS, 10 rue de Charenton, Paris, France, October 5-6, 2019. (MoBen/CityUHK)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
32	<b>BAUHAUS 100</b> , Macerata, Palazzo Buonaccorsi, Macerata, Italy, July 18-October 2019 (MoBen/CityUHK)	Academics and professionals in Architecture, art and design	artists, designers, architects, engineers	
33	<b>IS 2019 X VoV IVO</b> , VIP Launch: Value of Values VOV, Maurice Benayoun, Tobias Klein and Nicholas Mendoza (Artists), TazakMadang SKT HCI LAB, Seoul, Korea, Republic of, June 5-July 28, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
34	<b>ISEA2019</b> , Maurice Benayoun, Tobias Klein and Nicolas Mendoza, (Artists), Gwangju, South Korea, June 25, 2019 (MoBen/CityUHK)	Academics and professionals in arts and engineering	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	

35	<b>Melting Memories, exhibition NEAR + FUTURES + QUASI + WORLDS</b> , STATE Studio, Berlin, Germany; 4 July - 26 July 2020	Academics and professionals in arts and engineering, citizens	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
36	<b>Melting Memories – Engram, exhibition</b> , SørlandetsKunstmuseum, Norway. 4 June - 3 October 2020	Academics and professionals in arts and engineering, citizens	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
37	<b>Melting Memories – Engram, exhibition Neurones</b> , Centre Pompidou, Paris, France. 26 févr. 2020 - 20 avr. 2020	Academics and professionals in arts and engineering, citizens	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
38	<b>Melting Memories at Open Codes</b> , AzkunaZentroa, Spain, 23 October 2019 - 26 January 2020	Academics and professionals in arts and engineering, citizens	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
39	<b>NeuroSpace</b> , Exhibition Society of Neuroscience, Chicago, IL, USA. October 19-Wednesday, October 23 2019	Academics and professionals in arts and engineering, citizens	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	
40	<b>MeltingMemories</b> , exhibitedat Florence Biennale, Florence, Italy; 2019	Academics and professionals in arts and engineering, citizens	academics, researchers, industrial stakeholders, artists, designers, architects, engineers	

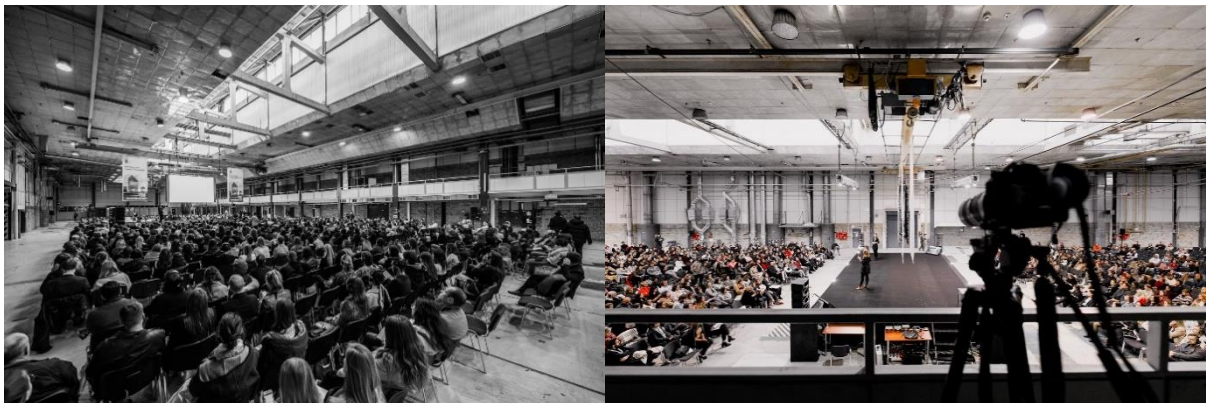
#### 4.1.2 MINDSPACES AT ARCHITECTURE OF THE FUTURE CONFERENCE

Kyiv, Ukraine | Oct 11, 2019

<https://architectureofthefuture.com/>

MindSpaces was presented at the Architecture of the Future Conference in Kyiv, Ukraine on Oct. 11, 2019 to an audience of over 2000 people who travelled from all over the world. The global event is the biggest European architecture conference on emerging technologies in Europe. The audience was a highly diverse group of architects, academics, scientists, researchers, developers, and AEC industry professionals related to the design, construction, and development of built environment. The event received global coverage by top design and architecture media outlets including ArchDaily. Many students and professionals shared photos and moments in their Instagram stories internationally, tagging the speakers. Zaha Hadid disseminated the MindSpaces concept, pilot use case 2, and demonstrated their design and simulation tools used in the MindSpaces platform over a 35-minute lecture. Following the lecture was a 1-hour+ panel discussion on the future of architecture and future technologies in architecture including questions and answers with the audience.

The conference provided a global stage to disseminate the project not only to potential end users and researchers, but also to potentially interested future exploitation partners and customers including large scale developers of office buildings. Below are some images from the event:

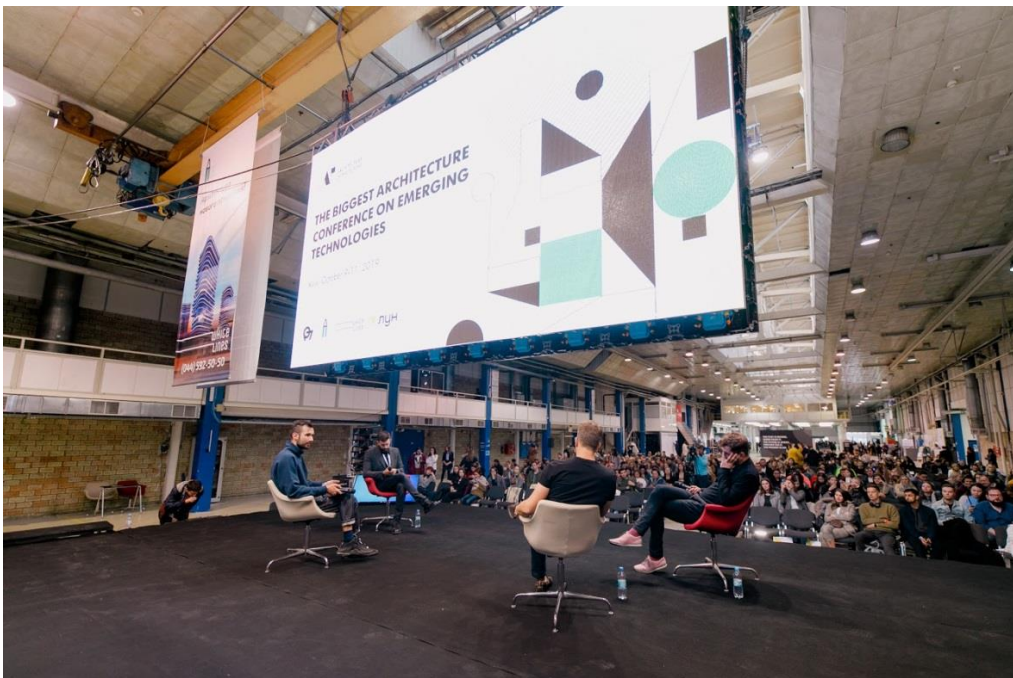


**Figure 12** MindSpaces Presentation at Architecture of the Future (2000+ audience)

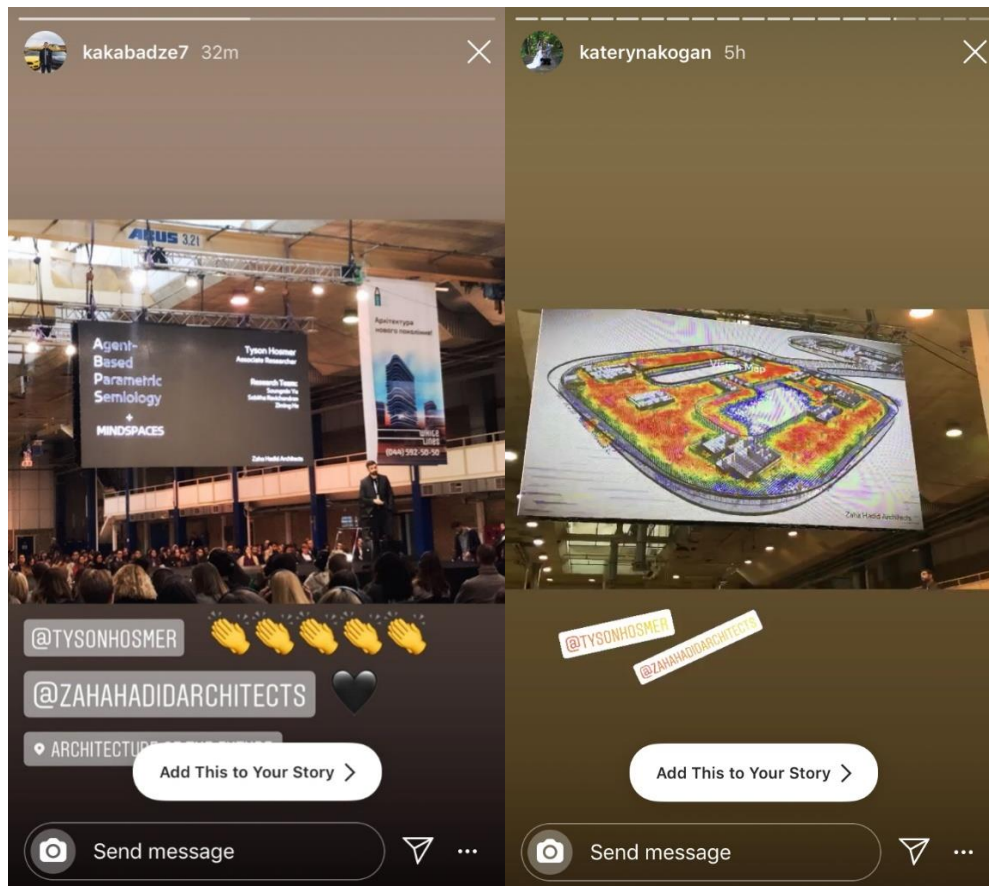




**Figure 13** MindSpaces Presentation at Architecture of the Future (2000+ audience)



**Figure 14** MindSpaces Round Table Discussion at Architecture of the Future (2000+ audience)



**Figure 15** MindSpaces at Architecture of the Future on Instagram

#### 4.1.3 MindSpaces Participation at ARS ELECTRONICA 2019. STARTS DAYS.

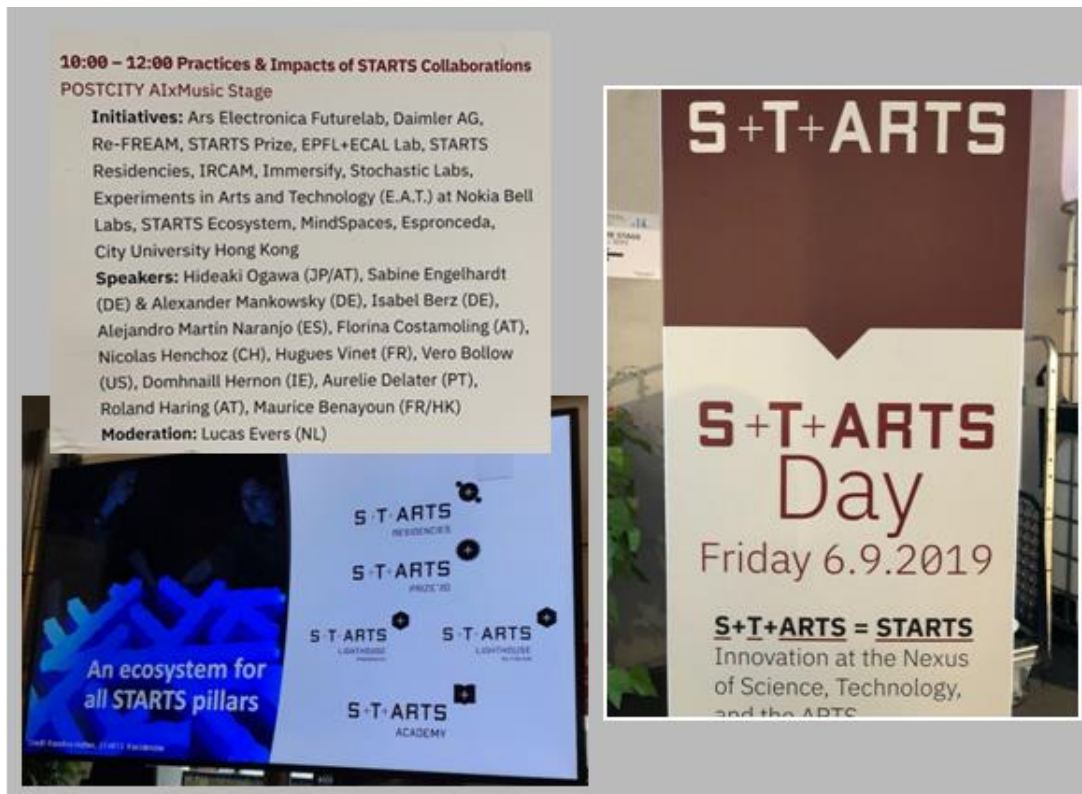
Linz, Austria. 5-9 September 2019.

<https://ars.electronica.art/outofthebox/en/starts-day/>

Ars Electronica is one of the world's largest media art venues, a digital music festival, a showcase for creativity and innovation, and a playground for the next generation – Ars Electronica is a world-class festival for art, technology and society.

STARTS was present in the event with a large surface showing results/artworks for STARTS Residences, STARTS prize, and funded projects. On STARTS day, September 6<sup>th</sup>, The **STARTS Day** offers insights into collaborative practices at the intersection of art, technology, science and industry. In different discursive formats and presentations, extraordinary examples from this field are presented and their implementations, methods and impacts identified.

MindSpaces had done a presentation of the project during this event and also several meetings and exchange of experiences with the colleagues from STARTS Ecosystem.



**Figure 16** Images of the displays and program during STARTS day with MindSpaces talk and Logo.

#### 4.1.4 MindSpacesat “Is this Tomorrow?” Art & Architecture innovation projects.

Whitechapel Gallery London

February 13<sup>th</sup> 2019

<https://www.whitechapelgallery.org/exhibitions/is-this-tomorrow/>

*Is This Tomorrow?* features experimental propositions from some of today’s leading architects and artists responding to issues we face in the 21st century from natural resources and migration to technology and spirituality. Their experiential projects take the form of environments, models, structures and systems, incorporating artworks, objects, film and graphics. Produced by Whitechapel and MAAT Center Lisbon, the director Mr. Pedro Gadanho was one of the external juries in MindSpaces First Open call for artists.





**Figure 17** Image of the exhibition “Is this tomorrow?” Art and Architecture, co-curated by Pedro Gadanho, member of the Open Call jury of MindSpaces.

#### 4.1.5 MindSpacesParticipation at Art and AI and STARTS Residency Days in Paris

Paris, France, 26 February – 3 March 2020.

<https://www.starts.eu/agenda/vertigo-forum-centre-pompidou/detail/>

<https://vertigo.starts.eu/start-residencies-days/>

<https://vertigo.starts.eu/symposium/>

MindSpaces participated in meetings and discussions at Vertigo Forum Art & AI at Center Pompidou, STARTS Residences at Centquatre, and Art Science Residences Conference IRCAM.

Three important events were organized by STARTS Ecosystem in Paris last February- March 2020 in different locations: C. Pompidou, Centquatre and IRCAM venue.

During those days were debates and network between all the projects related to STARTS, sharing experiences in managing Art Science Residences and Inter-disciplinary projects.

Mr. RefikAnadol(partner in MindSpaces) was invited to participate in the debates and show his work in Centre Pompidou, and Mr. Patrick Schumacher, CEO of Zaha Hadid (Partner in MindSpaces) was one of the speakers during Vertigo Forum.





**Figure 18** The partners of MindSpaces: Analog Native and Zaha Hadid participating as speakers in Vertigo Forum.



**Figure 19** "Melting Memories" 2019, RefikAnadol work exhibited "Neurones" C. Pompidou Paris. Visual representation from EEG data.

#### 4.1.6 MindSpaces Participation in Galette des Rois

“Galette des Rois” is a social event organized by the association in the 4th district town hall of Paris. E-Seniors presented the project to Parisian seniors and local representatives during a local event organized in the 4<sup>th</sup> district town hall on 21<sup>st</sup> of January 2020. Over 35 seniors attended this annual event organized to launch the association activities of the year. At this occasion, E-Seniors project managers presented the MindSpaces project in order for the general public to understand the correlations between art, technology and senior well being at home.



**Figure 20** MindSpaces at Galette des Rois

#### 4.1.7 MindSpaces Participation at Balkan Architecture Biennale

2019 Balkan Architectural Biennale - International Conference Belgrade, Serbia, 14-21 November, 2019

[www.bab.rs](http://www.bab.rs)

Keynote presentation: MindSpaces - Art driven adaptive indoors and outdoors design (AUTH) | Georgios Grigoriadis

AUTH presented the project of MindSpaces in the 2019 Balkan Architectural Biennale - International Conference.

#### 4.1.8 Second Multilingual Surface realization Workshop (MSR @ EMNLP)

Hong Kong, November 2019 <http://taln.upf.edu/pages/msr2019-ws/>

UPF organized a workshop and a shared task on multilingual generation at the EMNLP-IJCNLP'19 conference. The shared task data have been produced using the current MindSpaces English, Spanish, and French analysis pipelines. MoBen, as an invited speaker,

gave a talk where challenges for multilingual text generation from the artistic perspective in the context of large applications, such as MindSpaces, were discussed.

#### 4.1.9 MindSpaces Participation in Additional Events

- **CREA Festival:** CDH presented MindSpaces project from an artistic perspective during CREA Festival, the main event undergone by the District Cultural from L'Hospitalet on September 2019 in the Tecla Sala Arts Centre premises. This event brings together a wide representation of artists and cultural companies from the city.
- **Major Art Events:** Lemongrass presented MindSpaces project and disseminated the Open Call to the artists and architects communities attending in international events as: **Venice Art Biennale 2019, Art Basel June 2019, Frieze Art and Architecture Summit London**, 4<sup>th</sup> October 2019, also inviting relevant stakeholders of Art World to be part of the jury of MindSpaces Open Call, as Ms. Catherine David, deputy Director of Muséed'ArtModerne C. Pompidou.
- **Participation in Local Fairs, Paris:** E-Seniors participated in several local fairs in Paris on the 7<sup>th</sup> of September 2019 (Forum des Associations) and had stands where it introduced the MindSpaces initiative to Parisian citizens.
- **Local Event, Paris:** It also presented the project to Parisian seniors and local representatives during a local event organized in the 4<sup>th</sup> district town hall on 21<sup>st</sup> of January 2020.

#### 4.1.10 MindSpaces at ACM MULTIMEDIA 2019 Conference

ACM MULTIMEDIA 2019 Conference, ACM Multimedia, The NICE ACROPOLIS Convention Center, Nice, France, October 21-25, 2019 (MoBen/CityUHK)

<https://2019.acmmm.org/organization/index.html>

Presentation: Value of Values by the Brain Factory, EU HORIZON2020 S+T+Arts Lighthouse program, MINDSPACES HK CityU HK

MoBen/CityUHK presented the Project of the MindSpaces at this international recognition event, ACM MULTIMEDIA 2019 Conference, on October 21, 2019. ACM Multimedia concentrates on multimedia in the field of computer science. As the Art Chair of this conference, MoBen/CityUHK explored the border of Computer science and art with researchers and professionals from academia and industry through sharing innovative research outcomes and discussing development in this conference. **(Figure 21)**



**Figure 21** MindSpaces' at ACM MULTIMEDIA 2019

#### 4.1.11 MindSpaces at Content Insight

Content Insight, YSK Media (Hosted by Korea Creative Content Agency, KOCCA), Seoul, Republic of Korea, December 9, 2019 (MoBen/CityUHK)

Keynote Presentation: From the Brain to Blockchain

<http://www.alioplus.go.kr/event/evtDetail.do;jsessionid=sVzPA1ipgiqCC2oHk7j62Xw8.node21?typ=type&evtSeq=2039>

MoBen/CityUHK presented the Project of the MindSpaces at Content Insight Lecture on October 9, 2019.





**Figure 22** MindSpaces' at Content Insight

## 4.2 Cooperation Initiatives

Figure 24 is a table listing the presentations and collaborations with the consortia of other projects that were conducted in the first 18 months of MindSpaces. The following section summarises MindSpaces participation at Cutting Edges collaboration event.

### 4.2.1 Table of Collaborations

**Table 2** MindSpaces Collaborations with Other Projects

Event / Project Name	Collaboration with MindSpaces
H2020, WELCOME	Multilingual semantic language analysis and multilingual text generation.
H2020, Connexions	Multilingual language analysis and text generation.
H2020, V4Design	3D reconstruction for extracting 3D-models from aerial visual data; crawling and scrapping data from the web; language analysis and text generation.

H2020, TENSOR	Multilingual semantic language analysis and multilingual text generation.
H2020, beAWARE	Multilingual semantic language analysis.
Mingei Project	Laison with Mingei Project

#### 4.2.2 MindSpaces at Cutting edges. Exploring sustainability through S+T+ARTS

MindSpaces participated in a one-day hackathon (26 Sep 2019, Brussels) for imagining a more sustainable functioning of the city of Brussels. At this event it was presented a novel platform for participation between the city and its regions through mixed encounters of researchers, grant providers, companies, SME's, non-profit, spinoffs and start-ups, architects, designers, artists, policymakers etc.

### 4.3 Demonstrations and Workshops

Below we describe key workshops and demonstrations of the MindSpaces Platform and work in progress components prior to the completion of MindSpaces V1 prototype in the first 18 months of the project.

#### 4.3.1 MindSpaces in CMA Project Fund 2019 organized by Goethe-Institut of Thessaloniki

MindSpaces was demonstrated in Labattoir during a 4-day program organized by the Goethe-Institut of Thessaloniki in collaboration with the Cultural Management Academy. CERTH made a short introduction of what VR is and how it is becoming an essential tool for Arts and Cultural organizations. Afterwards CERTH made a brief overall presentation of MindSpaces project, its concepts, goals, and technologies used. Also, MindSpaces' three main Pilot Use Cases (PUCs) were analyzed, as well as the cross-disciplinary artist residencies that the project offers. This presentation was accompanied by a live demo in which an interior space of an office, experienced in VR, will change according to users' emotions (**Figure 23**).



**Figure 23** MindSpaces demonstration

#### 4.3.2 MindSpaces at S+T+ARTS Talks in Genova

MindSpaces successfully participated at S+T+ARTS Talks in Genova (4 Nov 2019), a workshop related to the temporary exhibition held at the Villa Croce Contemporary Art Museum in Genoa, in the context of the Genoa Science Festival. A showcase demonstration of the Inspiring Workplaces use case (PUC2) of MindSpaces project, a brief overall presentation, its concepts, goals, and technologies were presented at S+T+Arts talk in Genova. During the live demo, the interior of an office, experienced in VR, was changing according to users' emotions.

Purpose of PUC2 is the redesign of workplaces according to users' emotional and cognitive feedback to provoke engagement, inspiration, interaction, and productivity, while improving functionality. In the specific demo three parameters were tested, lighting, materials and color. In each one of these parameters, different values were used regarding different parts of the environment, e.g., walls, ceiling etc. (**Figure 24,25**)





**Figure 24** Screenshots of four instances of the PUC2 3D model (created by ZH) used as emotional stimuli with different materials on the floor, walls and different lighting configurations.



**Figure 25** MindSpaces Neuro-designing inspiring workplaces (demo)

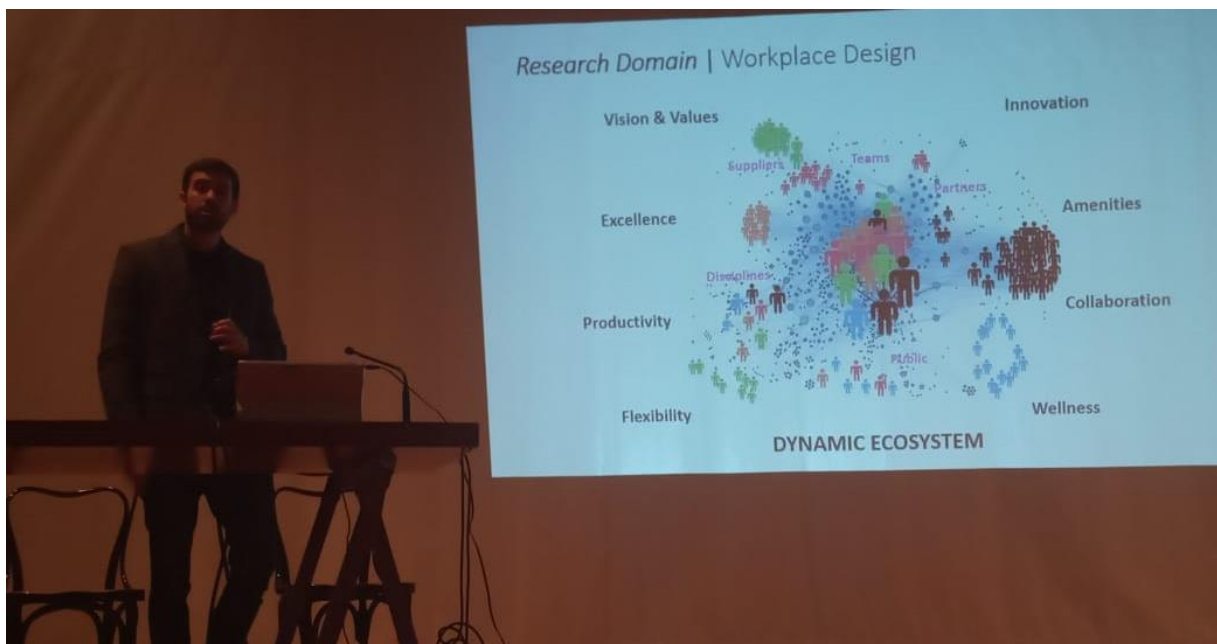


CERTH also presented a short work progress in the session: How artists envisage human space coordinated by Massimiliano Margarone, CEO of SPX Lab as **Figure 26** demonstrates.



**Figure 26** MindSpaces work progress in the session: How artists envisage human space.

Zaha Hadid Architects presented Pilot Use Case 2, Inspiring Workplaces and demonstrated the Zaha Hadid Design and Simulation tools developed with MindSpaces for simulating and analysing collective human behaviour in workplaces in relation to design features.



**Figure 27** MindSpacesPresentation of Pilot Use Case 2 & Simulation Tools

#### 4.3.3 MindSpaces at RTS\_ ReTranSens-Digital Art Festival 2019, MOCA Taipei

A project of MindSpaces, Value of Values (VoVs), was exhibited in the RTS\_ ReTranSens-Digital Art Festival 2019, MOCA Taipei. This exhibition explored art and technology by focusing on artificial intelligence and human perception, and creations for technological life in the future.



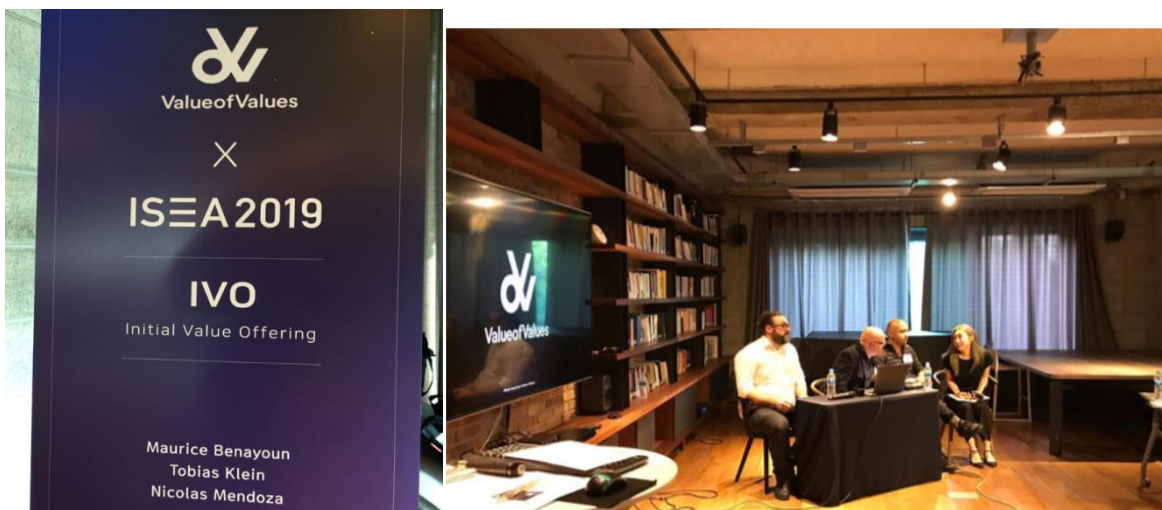
**Figure 28** MindSpaces at the Artist Talk, Digital Art Festival 2019, MOCA Taipei, October 25, 2019

Artists Maurice Benayoun, Tobias Klein and Nicolas Mendoza had a close conversation with the public about the project of the MindSpaces at the Artist Talk, which was organized by the MOCA Taipei during the exhibition period.

#### 4.3.4 MindSpaces at ISEA2019 X VoV IVO VIP Launch and ISEA2019 Special Exhibition

Maurice Benayoun, Tobias Klein, and Nicholas Mendoza (Artists), Value of Values VOV at ISEA2019 X VoV IVO, VIP Launch, TazakMadang SKT HCI LAB, Seoul, Republic of Korea, June 5-July 28, 2019 (**Figure 29**)

Maurice Benayoun, Tobias Klein, and Nicolas Mendoza, (Artists), Value of Values (VOV) at the 25th International Symposium on Electronic Arts (ISEA2019) Special Exhibition, Asia Culture Centre, Gwangju, Korea, Republic of Korea, June22-July28, 2019 (**Figure 30**)



**Figure 29** Maurice Benayoun, Tobias Klein and Nicholas Mendoza (Artists), Value of Values VOV at ISEA2019 X VoV IVO, VIP Launch



**Figure 30** Visitors interacted with the VoVs installation in ISEA2019 Special Exhibitions

Project of MindSpaces, Value of Values, was exhibited in the 25th International Symposium on Electronic Arts (ISEA2019) Special Exhibition, Asia Culture Centre, Gwangju, Korea, Republic of Korea, June 22-July 28, 2019.

#### 4.3.5 AN Presented MindSpaces Technology and Research in Various Exhibitions, Events, Performances, and Installations.

- **Melting Memories, exhibition NEAR + FUTURES + QUASI + WORLDS, STATE Studio, Berlin, Germany**

Exhibition from 4 July - 26 July 2020

Public Opening: 3 July 2020 NEAR + FUTURES + QUASI + WORLDS aims to emphasize the vital role that collaboration in scientific, technological, and artistic domains can play in furthering contemporary research and integrative forms of cutting-edge artistic creation. In its first iteration at STATE Studio in Berlin in July 2020, NEAR + FUTURES + QUASI + WORLDS will feature a selection of artworks, objects, and documents highlighting the manifold scope of S+T+ARTS actors and activities—STARTS Prize winners or works of artists from STARTS residencies and STARTS lighthouses.

- **Melting Memories – Engram, exhibition in Sørlandets Kunstmuseum, Norway**

Exhibition from 4 June - 3 October 2020

Sørlandets Kunstmuseum is a regional museum of contemporary and historical art in Kristiansand, Southern Norway's main city. We show exhibitions on a local, national and international level as well as offering activities and workshops for our visitors.

- **Melting Memories – Engram, exhibition Neurones, Centre Pompidou, Paris, France**

EXPOSITIONSNEURONES - Les intelligences simulées

26 févr. 2020 - 20 avr. 2020 de 11h à 21h Galerie 4 - Centre Pompidou, Paris

- **Melting Memories exhibited at Open Codes, Azkuna Zentroa, Spain**

Exhibition from 23 October 2019 - 26 January 2020

- **NeuroSpace exhibited at Society of Neuroscience, Chicago, IL, USA**

Neuro Space was open for public viewing at the McCormick Place Convention Center from Saturday, October 19-Wednesday, October 23, 2019 from 9 a.m.-5:30 p.m.



- **Melting Memories exhibited at Florence Biennale, Florence, Italy; 2019**

“RefikAnadol: an inventor of our time.

All this by reinterpreting Leonardo da Vinci’s legacy in new ways, through breakthrough technology, science, and art. To be displayed at the XIIIth Florence Biennale is Anadol’s Melting Memories, an immersive installation which, through the illusion of shifting forms on a picture plane with algorithmically generated compositions, makes us reflect on ageing, cognitive decay, and mortality.”

#### 4.3.6 Second Multilingual Surface realization Workshop (MSR @ EMNLP)

Hong Kong, November 2019 <http://taln.upf.edu/pages/msr2019-ws/>

UPF organized a workshop and a shared task on multilingual generation at the EMNLP-IJCNLP'19 conference. The shared task data have been produced using the current MindSpaces English, Spanish, and French analysis pipelines. MoBen, as an invited speaker, gave a talk where challenges for multilingual text generation from the artistic perspective in the context of large applications, such as MindSpaces, were discussed.

#### 4.3.7 MindSpaces User Workshop in Paris

The first user workshop was conducted in Paris, France April 8th, and 9<sup>th</sup> 2019 led by ESeniors. The workshop organized local focus groups to discuss the MindSpaces Project and identify useful opportunities and key user requirements. Specifically, this involved primarily senior citizen users focused on applications in PUC3.

### 4.4 Publications

#### 4.4.1 Scientific Publications

**Table 3** Table listing the scientific and industry publications that were conducted in the first 18 months of MindSpaces

#	Publication	Target Audience		
		End Users + Stakeholders	Academic / Researchers	Software Developers
1	<b>Title:</b> MindSpaces: Art-driven adaptive outdoors and indoors design	artists, architects,	students, academics,	

	<p><b>Authors:</b> P. Alvanitopoulos, S.Diplaris, B. de Gelder, A. Shvets, M. Benayoun, P. Koulali, A. Moghnieh, Y. Shekhawat, C. Stentoumis, T. Hosmer, R.Anadol, M. Borreguero, A.Martin, P. Sciama, K.Avgerinakis, P. Petrantonakis, A. Briassouli, S. Mille, A. Tellios, L. Fraguada, H.Sprengel, I. Kalisperakis, N. Cabanas, S. Nikolopoulos, S. Skouras, V. Vogler, D.Zavraka, J. Piesk, L. Grammatikopoulos, L. Wanner, T. Klein, S. Vrochidis,</p> <p><b>Publication:</b> 9th International Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage — DiPP2019, Burgas, Bulgaria, 26–28 September, 2019</p> <p><b>Open Access Repository Link:</b> <a href="http://dipp.math.bas.bg/images/2019/391-400_10_4.18_pDiPP2019-16_f_v.2.F_20190908.pdf">http://dipp.math.bas.bg/images/2019/391-400_10_4.18_pDiPP2019-16_f_v.2.F_20190908.pdf</a></p>	cultural heritage experts	researchers	
2	<p><b>Title:</b> Improving Scientific Article Visibility by Neural Title Simplification.</p> <p><b>Authors:</b> Shvets, A.</p> <p><b>Publication:</b> Proceedings of the 8th International Workshop on Bibliometric-enhanced Information Retrieval (BIR 2019, CEUR Workshop Proceedings), the 41th European Conference on Information Retrieval (ECIR 2019), Cologne, Germany, 140-147.</p>		Conference participants	
3	<p><b>Title:</b> Collocation Classification with Unsupervised Relation Vectors.</p> <p><b>Authors:</b> Anke, L.E., Schockaert, S., Wanner, L.</p> <p><b>Publication:</b> Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL), Florence, Italy, pp. 5765-5772.</p>		Conference participants	
4	<p><b>Title:</b> Selected Challenges in Grammar-based Text Generation from the Semantic Web.</p> <p><b>Authors:</b> Mille, S.</p>		Participants of the Summer School (artificial intelligence,	

	<p><b>Publication:</b> G. S. Osipov et al. (Eds.): Artificial Intelligence: 5th RAAI Summer School, Dolgoprudny, Russia, July 4–7, 2019, Tutorial Lectures, LNCS 11866, pp. 85-95. Springer International Publishing.</p>		natural language generation)	
5	<p><b>Title:</b> Teaching FORGe to Verbalize DBpedia Properties in Spanish.</p> <p><b>Authors:</b> Mille, S., Dasiopoulou, S., Fisas, B., Wanner, L.</p> <p><b>Publication:</b> Proceedings of the 12th International Conference on Natural Language Generation, Tokyo, Japan, pp. 473-483.</p>		Conference participants	
6	<p><b>Title:</b> The Second Multilingual Surface Realisation Shared Task (SR'19): Overview and Evaluation Results.</p> <p><b>Authors:</b> Mille, S., Belz, A., Bohnet, B., Graham, Y., &amp;Wanner, L.</p> <p><b>Publication:</b> Proceedings of the 2nd Workshop on Multilingual Surface Realisation (MSR 2019), EMNLP-IJCNLP'19, Hong Kong, China, November 2019, pp. 1-17.</p>		Conference participants	
7	<p><b>Title:</b> MindSpaces: Art-driven adaptive outdoors and indoors design</p> <p><b>Authors:</b> Anastasios Tellios, Despoina Zavraka, Panagiota Koulali, Kalliopi Valsamidou, Georgios Grigoriadis</p> <p><b>Publication:</b> Balkan Architectural Biennale, Decoding Balkans (BAB) – BAB2019, Belgrade, Serbia, 14-21 November, 2019</p>	Academics and professionals in Architecture, art and design	Conference participants	
8	<p><b>Title:</b> On the Multation of Art-Forms, from art-object to art-subject</p> <p><b>Authors:</b> Maurice Benayoun, Tanya Toft</p> <p><b>Publication:</b> ISEA 2020 accepted paper</p>		Conference participants	



9	<p><b>Title:</b> A modular mobile mapping platform for complex indoor and outdoor environments</p> <p><b>Authors:</b> I. Kalisperakis, T. Mandilaras, A. El Saer, P. Stamatopoulou, C. Stentoumis, S. Bourou, L. Grammatikopoulos</p> <p><b>Publication:</b> ISPRS Congress 2020 Archives</p>	Professionals in the areas of industry, agriculture, construction and space.	Academics in the fields Photogrammetry, Remote sensing, Architecture, Computer Vision, Archaeology,	
10	<p><b>Title:</b> Value of Values</p> <p><b>Authors:</b> Maurice Benayoun, Tanya Toft</p> <p><b>Publication:</b> CENTERPOINT NOW accepted paper</p>	Academics and professionals in Architecture, art and design		

#### 4.4.2 Magazine publications

##### a) MindSpaces @ Horizon Magazine

A publication for the MindSpaces project has been published at the Horizon Magazine, with the title ‘*Emotional response to city design could guide urban planning*’

<https://horizon-magazine.eu/article/emotional-response-city-design-could-guide-urban-planning.html>



Figure 31 Screenshot from Horizon magazine website

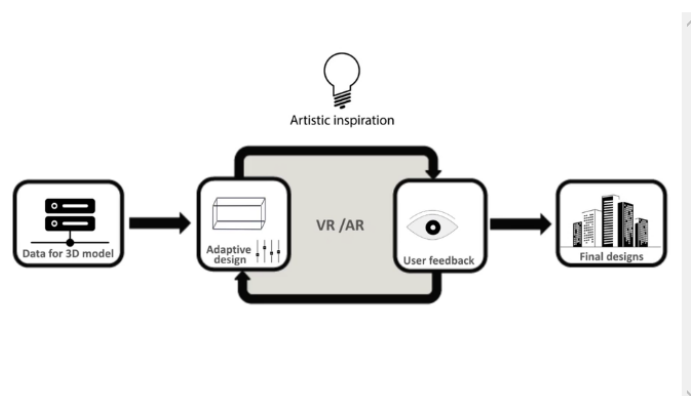
**b) MindSpaces @ Medium platform, in project : Augmented Urbans. Ten ways to understand THE urban environments better with XR**

MindSpaces was selected from *Päivi Keränen, Project Manager of Augmented Urbans at Metropolia UAS, Advisor at the Helsinki XR Center*, as one of the ten examples of how XR technology can chase to facilitate better comprehension of the current urban environment.

<https://medium.com/augmented-urbans/ten-ways-to-understand-the-urban-environments-better-with-xr-e76429493935>

## 6 | VR for pre-collecting user experiences

The project *MindSpaces* dives even deeper into monitoring the spatial experience. As part of the project activities, blueprints of urban outdoor spaces are presented to locals in VR, thus enabling them to experience the space before its implementation. While exploring the virtual space, local stakeholders are equipped with lightweight devices that measure their brain activity, skin response, and heart rate. Based on the readings, neurologists then use machine-learning programs to identify the most pleasant, stirring or emotionally appealing aspects about the proposed design; an insight for developing plans further.



Read more about the project in *Horizon — The EU Research & Innovation Magazine*

**Figure 32** Screenshot from Medium website

## 4.5 Open call for artists

### 4.5.1 Mindspace Open Call Webinar

#### **Dissemination of the first artistic call among artists and local agents in L'Hospitalet, April-May 2019**

CDH organized two face-to-face meetings with potentially interested artists from the Cultural District of L'Hospitalet city, presenting MindSpaces project and encouraging different scenarios of collaboration from an artistic perspective.

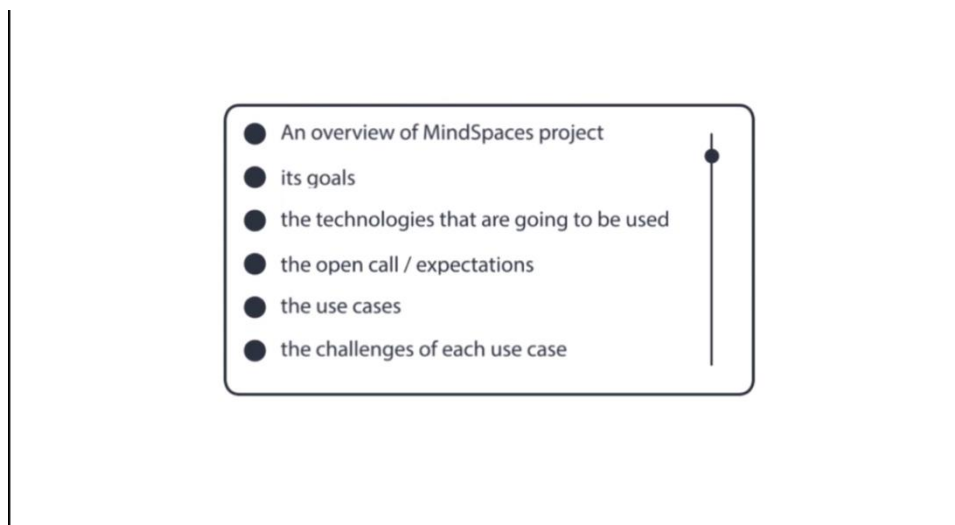
#### **Webinar at the premises of McNeel (Barcelona), May 2019**

A webinar organised by McNeel, along with CDH and Espronceda, presented MindSpaces project and the main features of the artistic call, encouraging different scenarios of collaboration from an artistic perspective for interested artists.

- CDH held regular meetings with Espronceda Arts Centre to explore a common approach to L'Hospitalet citizens to get them involved in the project while developing several channels to express their feelings and emotions in the urban outdoors space.
- CDH is in permanent contact with appointed artist Joao Martinho who is working on an artistic proposal for PUC1. We have provided him with several documents, pictures, and resources on L'Hospitalet city and citizenry.

#### 4.5.2 Explanation video (CERTH)

As shown on D1.5 an explanation video that combined simple and concise language, appealing imagery and attractive animations was made to capture the audience's attention. Its main information was what the MindSpaces project is about, what technologies are used and how the artists can be involved. Also, basic information about the residency was explained regarding the budget, the duration, the deadline etc. The link of the video is the following <https://vimeo.com/339520841> and had **805 plays** during the **2 open calls**.



**Figure 33** Screenshot of the open call explanation video

#### 4.5.3 Newsletters (ALL)

In both open calls several newsletters and announcements were released as shown in **Figures 34,35,36**

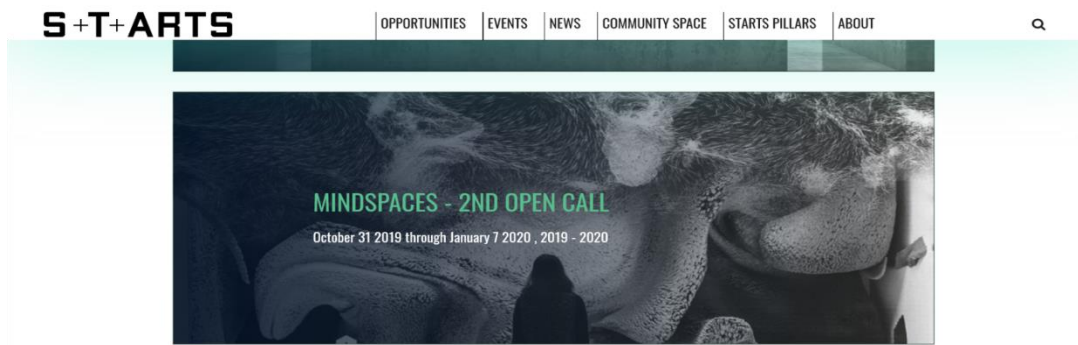


Figure 34 Open Call announcement on S+T+ARTS website

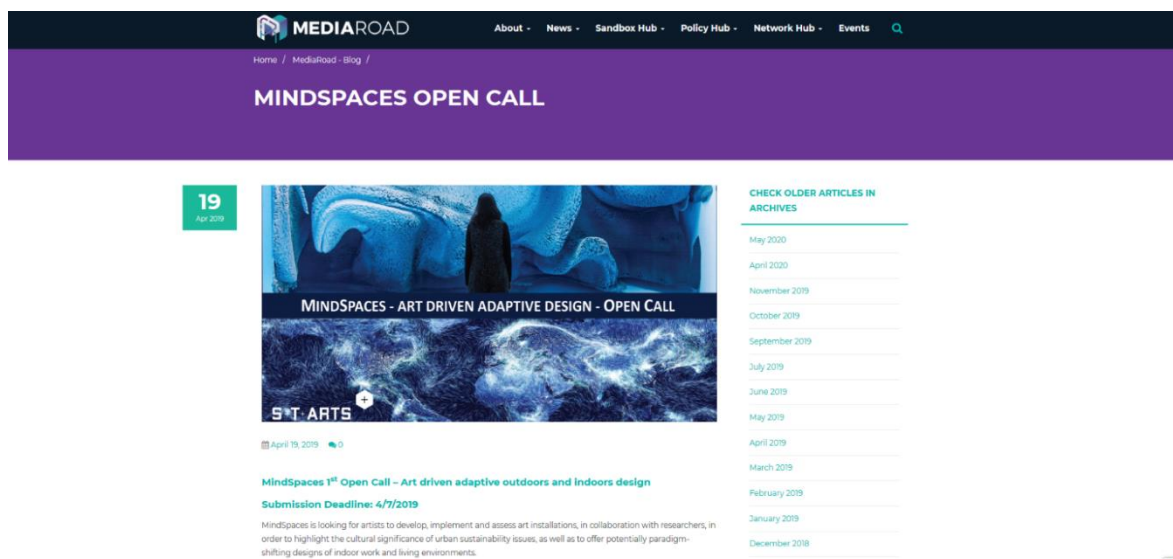


Figure 35 Open Call newsletter on Mediaroad website



Figure 36 MindSpaces Open Call presentation on RegionArts3rd Local Stakeholders' Group (LSG) meeting. Image courtesy of [RegionArts](#)

#### 4.5.4 Announcements to Professional Networks of Art/ Design/ Architecture/ Culture

Lemongrass presented MindSpaces project and disseminated the Open Call to the artists and architects communities attending in international events as: Venice Art Biennale 2019, Art

Basel June 2019, Frieze Art and Architecture Summit London, 4<sup>th</sup> October 2019, also inviting relevant stakeholders of Art World to be part of the jury of MindSpaces Open Call, as Ms. Catherine David, deputy Director of Musée d' Art Moderne C. Pompidou, organizing personal meetings with them to have them on board.

Additionally, was disseminating the Open Call on the network of Espronceda Institute of Art and Culture, Leonardo ISAST, Resartis, Serpentine Galleries, ENCACT, and many other institutions and Art Centers associated with Espronceda, Institute of Art and Culture.

## 5 FORESEEN DISSEMINATION ACTIVITIES

MindSpaces dissemination strategy outlined in Section 2 and D.8.1 identifies and targets diverse audience groups with different interests and needs related to the project. These include end users (citizens, architects, designers and potential industry stakeholders), as well as researchers, academics and developers. Each requires a unique message and approach by the project consortium to communication, 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.

At this stage of the project we are nearing the completion of the first V1 prototype of the platform so there are no results or product that can be fully tested or demonstrated. Our primary dissemination objective at this stage is to present the concept, objectives, and use cases of MindSpaces and demonstrate the work in progress of individual components of the platform to relevant international events. Networking activities are also important to have direct contact with potentially interested target groups and researchers working in similar territories.

MindSpaces will actively pursue high profile scientific, academic, and commercially relevant events and conferences within the project's domain of interest. This includes academic and scientific conferences targeted toward the research areas of the individual MindSpaces partner research and collective MindSpaces research scope. Commercial events will also include media, architecture and the built environment, design, video game design, and cultural-related commercial conferences, fairs, and exhibitions.

### 5.1 Targeted Dissemination Events

Listed below are several dissemination actions planned for the very immediate future. The list highlights the some of the most important events targeted by the consortium.

- **Ars Electronica 2020** -MindSpaces will participate at Ars Electronica 2020. This year Johannes Kepler University is a new cooperation partner of Ars Electronica. Therefore, Ars Electronica will move from POSTCITY to KEPLERS GARDEN and will take place at the campus of the Johannes Kepler University and will transform its “parks” into a festival site. Following last year's fulminant 40-year anniversary festival, which brought more artists, exhibitors and international experts to Linz than ever before, this year Ars Electronica is starting on a journey, or rather the festival itself is becoming a journey - a journey through "Kepler's Gardens". A journey through the networked biotopes and ecosystems in which people around the world are working to develop and shape our future, which in these days means above all saving our future. In general Ars Electronica has the vision of becoming a digital travel agency that will bring their visitors to our “garden” destinations. Therefore, they invite MindSpaces to become a “gardener”. In MindSpaces garden we will host:
  - a. A pre-recorded interviews of the 5 artists selected from the open calls
  - b. A live demonstration of the DIALOG project. DIALOG is an urban art project proposed by two artists: RefikAnadol and MoBen. It will be an

experimentation platform on the value of mutual understanding between artworks, as well as between artworks and humans, between humans, and therefore, a form of human to (H2H) interaction. Deeply context-aware, DialoG helps to understand why differences make communication at the same time difficult, fruitful, and necessary.

c. A pre-recorded demonstration of MindSpaces platform

- **SONAR+D 2020** - CDH will participate in the virtual edition of SONAR+D 2020 scheduled for September 2020 presenting their most innovative and technology and art driven projects of the city. SONAR 2019 brought together over 105,000 participants from 120 countries.
- **Blue Week, Paris** - E-Seniors will disseminate the MindSpaces project during the “Blue Week”, the second week of October dedicated to seniors where several events are organized and coordinated by the town hall of Paris. The event will target seniors (usually around 20 to 30 attendees) and will be open to the public as it will be organized in a social or associative center. It will present the current advances of PUC3 (method, models, and artistic project Re-feel). The goal is to explain to the general public and in a comprehensive manner the advances of the project and the use of technology for senior well-being at home.
- **2021 Venice Architecture Biennale:** AUTH and the School of Architecture will participate in the 2021 Venice Architecture Biennale. AUTH is aiming to implement some of the MindSpaces technologies as part of the exhibition in the Greek pavilion. The event will take place in May 2021.

## 5.2 Targeted Scientific / Academic Conferences

The scientific/academic conferences related to the MindSpaces research scope have been targeted for 2020/2021 and are organised below by domain of research and work package.

### 5.2.1 Art, Technology and Society: emotional design and citizenship co-creation (WP2)

- **ISEA 2021. 27<sup>th</sup> International Symposium of Electronic Art.** June 27- July 3 2021. Barcelona. Spain.
- **Another Artworld: Manifestations and Conditions of Equity in Visual Arts.** 3-4 December 2020, Belgrade.
- **Fifth International conference in Universal Design.** June 9 - 11 2021 at Aalto University, Espoo



### 5.2.2 Sensor data collection (WP3)

- **CVF Conference on Computer Vision and Pattern Recognition**, CVPR, Nashville, TN, from June 19 to June 25, 2021, <http://cvpr2021.thecvf.com/>
- **ICCV : IEEE International Conference on Computer Vision** Montreal, Canada, from October 11 to October 17, 2021. <http://iccv2021.thecvf.com/>
- **ACM Multimedia Conference (ACMMM-20)**, 12-16 October 2020 Seattle, United States, <https://2020.acmmm.org/>
- **ACM International Conference on Multimedia Retrieval –ICMR 2020** Dublin, Ireland, 26-29 October 2020, <http://www.icmr2020.org/>
- **ACM International Conference on Web Search and Data Mining - WSDM 2021** Jerusalem, Israel, 8-12 March, 2021, <http://www.wsdm-conference.org/2021/>
- **European Conference on Information Retrieval - ECIR 2021** Lucca, Italy, Mar 28, 2021 - Apr 1, 2021, <https://www.ecir2021.eu/>

### 5.2.3 Textual Analysis and Text Generation (WP4)

- **The 1st Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics and the 9th International Joint Conference on Natural Language Processing (AACL-IJCNLP 2020)**, December 4-7, 2020, Suzhou, China
- **The 22nd International Conference on Knowledge Engineering and Knowledge Management (EKAW 2020)**, 16-20 September 2020, virtual event
- **The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)**, 16-20 November 2020
- **The 28th International Conference on Computational Linguistics (COLING 2020)**, 8-13 December, 2020
- **The 13th International Conference on Natural Language Generation (INLG 2020)**, 15-18 December 2020, The Helix, Dublin City University
- **The 24th Conference on Computational Natural Language Learning (CoNLL 2020)**, November 19-20, 2020
- **19th International Workshop on Treebanks and Linguistic Theories (TLT 2020)**, October 27-28, 2020

### 5.2.4 MindSpacesAdaptive Environment Development (WP5)

- **EMBEC2020: 8th European Medical and Biological Engineering Conference**<https://www.embec2020.org/>
- **IEEE International Conference on Semantic Computing - ICSC 2021**, Laguna Hills, United States, 27-29 January 2021, <https://www.ieee-icsc.org/>
- **ICIP2021: IEEE International Conference on Image Processing**, <http://www.2021.ieeeicip.org/>
- **ICCV2021**: <http://iccv2021.thecvf.com/home>

- **PatReCH2021**: pattern Recognition for Cultural Heritage <http://lia.unicas.it/patrech2020/>
- **ICCVISP2021**: International Conference on Computer Vision, Image and Signal Processing; <https://waset.org/computer-vision-image-and-signal-processing-conference-in-january-2021-in-tokyo>

### 5.3 Targeted Architecture, Design, and Commercial Events

End users, industrial stakeholders, and potentially interested developers will be targeted for dissemination through commercial events and conferences related to architecture, design, the built environment, game development, and relevant cultural events. Here they will be informed of the concepts, progress, and potential products of MindSpaces through presentations and our media kit. Specifically, the following media, architecture, design, game and cultural-related commercial conferences, fairs and exhibitions are targeted for 2020/2021:

#### 5.3.1 Tool Development, Deployment, and Evaluation for Architecture (WP6/WP7)

- **DigitalFUTURES**, June 27 – July 3, 2020, virtual event. <https://www.digitalfutures.world/>
- **AAG Conference 2020**, August 30 – September 2, 2020, Paris. <https://www.aag2020.com/>
- **ROB|ARCH 2020**, September 1 – 5, 2020. <https://www.robarch2020.org/>
- **eCAADe Conference**, September 16 – 17, 2020, TU Berlin. <http://ecaade.org/>
- **Experience Additive Manufacturing Conference**, September 22 – 24, 2020. <https://www.experience-am.com/>
- **2020 Design Computation Conference**, October 7 – 8, 2020, London. <https://www.designcomputation.org/dcio-2020-submit>
- **Shape to Fabrication 2021**, date TBD, London. <https://www.shapetofabrication.com/>
- **Acadia 2020** :“DISTRIBUTED PROXIMITIES” | October 26-31, 2020 | Online + Global. <http://acadia.org/>
- **Acadia 2021** :“Hybrids & Haecceities,” October 2021. University of Pennsylvania Stuart Weitzman School of Design. <http://acadia.org/>
- **SimAUD 2020**: Date/Location TBD. <http://www.simaud.org/>
- **Fabricate 2020**: 9-12 September 2020, London, UK. <http://www.fabricate.org/>
- **SmartGeometry 2021**: SG2020 Vision, June, 2021. Carnegie Mellon University, Pittsburgh, US. <https://www.smartgeometry.org/>

## 5.4 Foreseen User Workshops, Demonstrations, & Open Days

The MindSpaces consortium will organize several of its own events during the project duration. Among these, several events aim at demonstrating the MindSpaces platform to the public and receiving constructive feedback to improve the supported features and enlarge its potential impact. These events will focus on augmenting and improving the project objectives and system functionality, receiving instructive feedback from the users, and building networks for potential exploitation opportunities and impacts. Below we have identified the most significant open days and demonstration workshops we have currently planned, and the organisation of additional venues will be further considered during the project's lifetime.

### Demonstrations / User Workshops:

**Demo / Workshop 1:** The first demonstration workshop will be realized by eSeniors in Paris after the deployment of the 1st prototype (M22) and its results will be integrated into the next development cycles. This workshop will demonstrate results from PUC3 – Emotionally-sensitive functional interior design. The workshop will have the following objectives: to present the lessons learned in MindSpaces and illustrate its first results by demonstrations, to offer the interested parties the possibility to experiment with the MindSpaces workbench in “hands-on” sessions and to obtain feedback from the participants. E-Seniors, with the close cooperation of CERTH, foresee to organize a user workshop with Parisian seniors in September / October 2020 (timing depends on Covid-19 impact). For this workshop, participants will wear an Enobio 8 device that uses eight electrodes to capture EEG signals. The virtual reality headset that will be used is an Oculus Rift. During the experiment the interior of a house in Paris, experienced in VR, will change according to users' emotional state.

**Demo / Workshop 2:** A second parallel demonstration workshop will take place in L'Hospitalet where CDH will organize a user workshop with citizens in Tecla Sala Arts Centre in September / October 2020 (timing depends on Covid-19 impact). This will be a first pilot test of the platform in VR using EEG devices for PUC1. The first MindSpaces' prototype will be presented to a group of Users (Citizens). They will be asked to validate the overall impression of the prototype, its usability and if the presentation of the results and the system's functionalities are helpful for them. The focus group will be asked to try and assess the performance of the prototype.

**Demo / Workshop 3/4:** Additional demonstration workshops with Expert Users (Architects / Researchers / Professionals) are planned for September / October 2020 (timing depends on Covid-19 impact). The location is still being determined potentially in Thessaloniki (CERTH/AUTH), Barcelona (McNeel), or London (Zaha Hadid Architects). The first MindSpaces' prototype will be presented to a group of Expert Users who will be to validate the overall impression of the prototype, its usability and if the presentation of the results and the system's functionalities are helpful for them. The focus group will be asked to try

and assess the performance of the prototype. This demonstration workshop will focus PUC2 & PUC1 for architects and designers to test the platform.

**Open Days:**

The first Open Day will be held by ESP and NURO in Spain after the deployment of the 2nd prototype (M31) and will demonstrate MindSpaces progress in PUC1 Outdoors urban environments and potentially PUC2 Inspiring Workplaces. This open day aims to test and evaluate MindSpaces in a real-life environment for further technical advancements and changes, and also demonstrate it in a broader audience consisting of academic and market representatives. The second Open Day (M36) will be organized by ZH in UK so as to fully demonstrate MindSpaces to a broader group of potential customers, including architecture offices, video game companies, design industry leaders, governmental members, investors and societal organizations. This open day will demonstrate MindSpaces results in PUC2 Inspiring Workplaces.

**5.5 Foreseen Cooperative Initiatives**

The MindSpaces consortium is planning to expand its collaboration with other European projects through meeting and sharing events within STARTS Ecosystem project and general with all the STARTS initiatives.

**5.6 Updated Calendar of Events**

According to the events described in the above sections Table 5 contains an updated calendar of the main international and national conferences, exhibitions and events that MindSpaces will organise and participate in, as well as the events that are already scheduled.

**Table 4** MindSpacesCalendar of Events

YEAR 1											
Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
	Is this Tomorrow?		First Earth	Thessaloniki Design Week	<b>Milestone1</b>			ICT Proposers' Day 2019	<b>Arch of the Future</b>	MSR @ EMNLP	<b>Milestone2</b>
			100 Years Bauhaus	Balkan Architecture Biennale	LUX AETERNA				ACADIA19	<b>STARTS Genova</b>	Content Insight
				<b>Ars Electronica</b>	ISEA2019				Digital Art Festival Taipei		
				Internation Symposium on Chinese Cinema	The Oval				ACM MULTIMEDIA		
					CADAF				Sustainable Transformations		
									RTS_ ReTranSens		
									Melting Memories		
									NeuroSpace		
YEAR 2											
Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
	Vertigo Forum Art & AI C. Pompidou			<b>McNeel Open Call Artists / Architects Webinar</b>	<b>1st Prototype (V1)</b>	Digital Futures	Milestone3	<b>1st demo workshop</b>	<b>3rd demo workshop</b>	EMNLP 2020	AACL-IJCNLP 2020
				Derrick de Kerckhove Lecture CAFA	DLA 2020 Virtual	Melting Memories		<b>2nd demo workshop</b>		CoNLL 2020	INLG 2020

				New Media and Education Congress	LUMIÈRE / ESPACE / TEMPS			ARS Electronica	TLT 2020		COLING 2020
					Melting Memories			SONAR+D 2020	Acadia 2020		Another Artworld
								ACMMM-20			
								ICMR 2020			
								eCAADe Conference,			

YEAR 3											
Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36
IEEE , ICSC 2021		ECIR 2021	Milestone4	Venice Architecture Biennale	Smart Geometry	ISEA 2021	1st Open Day London		Acadia 2021		Milestone5
ICCVISP 2021		WSDM 2021			cvpr2021	2nd Prototype (V2)			iccv2021		Second Open Day London

## 6 USER COLLABORATION ACTIVITIES

### 6.1 MindSpaces User Group (UG) – Users Currently Listed

The MindSpaces User Group (UG) is being formed by recruiting relevant stakeholders from the creative fields and related industries with an explicit interest in following the progress of the project. Existing contacts from EU funded projects, the academic and scientific community, the project related industrial and business-related communities will be involved to attract interested members and members who could help with potential exploitation support opportunities and impacts and networks.

One aim of the UG is to setup partnerships that are mutually beneficial and 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
- Test and provide feedback for the MindSpaces platform and its individual components
- Establish potential synergies for the exploitation of the project results and the development of business models and effective partnerships
- Participate in the technical discussions and activities (special sessions, standardisation, etc.)
- Contribute with ideas or useful requirements that may improve the project objectives

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

- CERTH gets in touch with research and academic partners working on aesthetics and style extraction from paintings and images from artworks. CERTH will also look for potential users from the artistic community interested in collaborating with scientists
- NURO will promote the existence and benefits of MindSpaces 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.
- ZHA will utilise its global network to contact leaders in the architecture and computational research community, architects, engineers, and professional stakeholders and clients related to architecture, design, and workplaces.
- McNeel will reach out to professionals, practitioners and members of Rhino3D and GrassHopper's user communities, with practices relevant to the applications and use cases defined in the project. McNeel will also participate in recruiting users and early adopters of the tools that are envisioned in the project.



- 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 related to MindSpaces.
- MU will disseminate its outcomes via MindSpaces dissemination events, but also scientific conferences, journals and workshops. It will also examine project-specific workshops, related to the use of technology for art and architecture-related applications, as well as ambient assisted living. Its dissemination will first focus on image and video processing, and computer outlets, and also involve application-specific workshops.
- UPF will look for potential users through dissemination events in the academic community, and through the promotion of the MindSpaces technologies with the collaboration of the UPF Business Shuttle.
- Up2Metric will disseminate the MindSpaces Project in the academic and the stakeholder community during its participation to scientific conferences and commercial exhibitions. Also, up2metric will send a newsletter to its partners in the Hellenic Photonics cluster and the Athens technological center in NCSR “Demokritos” as soon as the results of the 1st version of the MindSpaces Platform is ready.
- MoBen and CityUHK will contact high level members of the Art, Tech / AI community to attract creative leaders into the MindSpaces UG.
- AN will disseminate the MindSpaces Project in the academic and the media arts and AI community during its participation to exhibitions, conferences, and events. Through Refik Anadol Studio’s world-wide artistic and research-based activities will be another strong dissemination method to enhance the engagement and public awareness for MindSpaces Project worldwide.
- E-Seniors will promote the MindSpaces project on its website and on its social networks. In addition, since our target audience is senior, we will go to events, forums, and conferences where this population can be reached by the project. In Paris, E-Seniors gathered a user group of 27 seniors with whom they organized two focus groups in April 2019.



**Figure 37** Photo from E-Seniors' user group meeting

- City Council of L'Hospitalet, along with ESPRONCEDA, will promote participation and involvement of the citizenry of L'Hospitalet while conducting a public call for urban photographs and images of the city landscape to create an archive of pictures to be used by the artistic team of the project. ESP will promote MindSpaces and reach out to members of the art community under its contact attracting them into the UG.

The following tables identify the MindSpaces User Group which is composed of a combination of users contacted by the partners and those who have requested to join the user group and a list of potential users under contact that the partners plan to engage in the second half of the project. Additional User Group Partners are being collected and listed so they can be contacted with the offer to become part of the User Group in the next months. It was elected to wait with fully assembling a user group until there is a full demo and tangible results to show to get potential partners interested in the MindSpaces project and platform. The V1 prototype of MindSpaces platform is now being completed this month and the UG is being assembled to begin testing and providing feedback. Here are the lists of current and potential users that will be contacted in the following months:

**Table 5** Current MindSpacesUser Group Members through Partners

#	Company / Institution	UG Type	Expertise	Contact Point	Country
1	Acute Art	Artist	Virtual Reality & Augmented Reality Art Production	Mr. Daniel Birnbaum	UK

2	Labs4Reality/Polytechnic University of Catalonia	Developer	AR/VR	Isidro Navarro	Spain
3	MIT Media Lab / City Science Group	Researcher	Big Data Analysis, urban planning, architectural robotics, building design and construction, (free form transparent energy efficient envelopes and biomedical uses), eco-innovation, e-learning and its impact on social networks, new technologies, IOT	Mr. Luis Alonso	USA
4	BRAINVITGE /Institute of Biomedical Research of Bellvitge Hospital	Researcher	Research on brain mechanisms of communication and learning	Prof. Josep Marco Pallarés	Spain
5	Age Village	Citizens	Active ageing, seniors, ageing professionals	Marion Bernard -	France
6	EURAG	Citizens	Active ageing, seniors, ageing professionals	Wolfgang Leyendeker	Austria
7	AG2R	Citizens	Insurance company for seniors	Alexia Brunold	France
8	DASES	Citizens	Social policies for seniors		France
9	CASVP	Citizens	Social center in Paris	Mme Bertram	France
10	Federation des Centres sociaux de Paris	Citizens	Federation of social centers in Paris	Marina Kotlarevsky Maia	France
11	Malakoff Médéric	Citizens	Insurance company for seniors	Marie-Paule Maurens	France
12	MSA	Citizens	Insurance company for seniors	Maryline Beck	France
13	Reunica	Citizens	Insurance company for seniors	Patricia Nobile	France

14	Pass it on	Citizens	Association for active ageing	Moira Allan	France
15	Polibienestar	Researcher	Active ageing, seniors, ageing professionals	Sandra Martinez	Spain
16	Instituto Pedro Nunes	Researcher	Ageing & new technologies	Pedro Quintas	Portugal
17	Minatec Grenoble	Artist	VR, body movement and citizenship	Pauline de Chalendar	France

**Table 6** Current MindSpacesUser Group Members by Request

#	Name	Contact Details	Date Added
1	Juan Barrera	videoso.juan@gmail.com	6/1/2020
2	João Martinho Moura	joaomartinhomoura@gmail.com	2/1/2020
3	Luciano Azzigotti	lucianoazzigotti@gmail.com	23/12/2019
4	Adam leech	aw.leech@gmail.com	11/12/2019
5	Fred Voisin	fred@fredvoisin.com	1/11/2019
6	CharalamposKrekoukiotis	hakrek@gmail.com	9/10/2019
7	Ágnes Karolina Bakk	bakkagnes@gmail.com	2/7/2019
8	Elaine Bonavia	ebonavia2@gmail.com	24/6/2019
9	Nadia Gerazouni	nadia@thebreederssystem.com	2/6/2020
10	Katerina KOSKINA	kkoskina@gmail.com	2/6/2020
11	Katerina Gregos	katerina@katerinagregos.com	2/22/2020
12	Emanuel Gollob	emanuel@emanuelgollob.com	12/05/2020

**Table 7** Potential MindSpacesUser Group Members under Contact

#	Company / Institution	UG Type	Expertise	Contact Point	Country
1	Innsbruck University	Architect	Architecture & Tech	Cenk.Guzelis@uibk.ac.at	Austria
2	UOC	Research	Design, Art, Tech, Society	palsinag@uoc.edu	Spain
3	Anton Trstenjak Institute of Gerontology and Intergenerational Relations	Research	Healthy ageing, seniors	alenska.ogrin@inst-antonatrstenjaka.si	Slovenia

4	Instituto per Servizi di Ricovero e Assistenza agli anziani	Research	Healthy ageing, seniors	faber@israa.it	Italy
5	PassItOn Network	Research	Active ageing and seniors	moiraallan@yahoo.fr	France
6	City Council of Hospitalet	Architect	Urbanism, public design	ltraveria@l-h.cat	Spain
7	Asociación El Distrito of L'Hospitalet	Cultural management	Artist and citizen of L'Hospitalet	elisabet@karakter.es	Spain
8	Catalan Institute of Health	Research	Arts, Health and Wellbeing Program	gdefak@gencat.cat	Spain
9	Flaregames	Game Dev	Game publishing, mobile games	Justin Stolzenberg	Germany
10	Gameduell	Game Dev	Multi-player Game Dev	Boris Wasmuth	Germany
11	PlayGen	Game Dev	Games, gamification for health and engagement	Kam Star	UK
12	Rockabyte	Game Dev	Software dev and applied games	Stefan Zingel	Germany
13	The Virtual Dutchmen	Game Dev	VR / AR / 3D Design	Roelof Terpstra	Netherlands
14	Foster & Partners Specialist Modeling Group (SMG)	Architecture Research	Architecture, computational design, AEC, BIM, VR	ogheorghiu@fosterandpartners.com	UK
15	Computational Development Group BuroHappold Engineering	Architecture Research	Simulation, Crowd Modeling, Architecture, computational design, AEC, BIM, VR	shrikant.sharma@burohappold.com	UK

16	Euronews	Game Dev / Research	VR Journalism	Ole Krogsgaard	France
17	OMA - Office of Metropolitan Architecture	Architecture	Architecture	office@oma.com	Netherlands
18	MVRDV	Architecture	Architecture	office@mrvdv.com	Netherlands
19	Replicate	Architecture	3D reconstruction	Paul Chippendale	Euro project
20	Purple Pill	Architecture	AR / VR Design Agency	Coen Kraaijvanger	Netherlands
21	TU Delft	Architecture	Technical University	PJM Van Oosterom	Netherlands
22	QMUL, Multimedia & Vision Research Group	Architecture	multimedia applications	Ioannis Patras (i.patras@qmul.ac.uk)	UK
23	Chris Coios	Architecture	Architecture	Chris Coios	USA
24	Foster and Partners	Architecture	Architecture	press@fosterandpartners.com	UK
25	Snohetta	Architecture	Architecture	press@snohetta.com tonje@snohetta.com	Norway
26	UNStudio	Architecture	Architecture	info@unstudio.com	Netherlands
27	Toyo Ito & Associates Architects	Architecture	Architecture	ito@toyo-ito.co.jp	Japan
28	Bernard Tschumi Architects	Architecture	Architecture	btua@tschumi.com	France
29	Renzo Piano Workshop: RPBW Architects	Architecture	Architecture	press@rpbw.com	Italy
30	James Corner Field Operations	Architecture	Landscape Architecture	btua@tschumi.com	France
31	Miralles Tagliabue EMBT	Architecture	Architecture	press@mirallestagliabue.com	Spain
32	Studio Odile Decq	Architecture	Architecture	office@odiledecq.com	France



33	Ateliers Jean Nouvel	Architecture	Architecture	presse@jeannouvel.fr	France
34	Kazuyo Sejima + Ryue Nishizawa, SANAA	Architecture	Architecture	press@sanaa.co.jp	Japan
35	Kengo Kuma and Associates	Architecture	Architecture	kuma@ba2.so-net.ne.jp	Japan
36	VOGT Landscape	Architecture	Landscape / Architecture	mail@vogt-la.ch	Switzerland
37	BIG Bjarke Ingel Group	Architecture	Landscape / Architecture	big@big.dk ; press@big.dk	Denmark
38	Henn Architects	Architecture	Architecture	<a href="http://www.henn.com/en#design">http://www.henn.com/en#design</a>	Berlin
39	ROK	Architecture	Architecture, computational design, programming	<a href="http://www.rok-office.com/">http://www.rok-office.com/</a>	Switzerland
40	NL Architects	Architecture	Architecture	office@nlarchitects.nl	Netherlands
41	Christ & Gantenbein	Architecture	Architecture	mail@christgantenbein.com	Switzerland
42	Buchner Brundler Architekten	Architecture	Architecture	mail@bbarc.ch	Switzerland
43	Barkow Leibinger	Architecture	Architecture	info@barkowleibinger.com	Germany
44	Gruntuch Ernst Architekten	Architecture	Architecture	mail@gruentuchernst.de	Germany
45	Staab Architekten	Architecture	Architecture	info@staab-architekten.com	Germany
46	Max Dudler Architekt	Architecture	Architecture	info@mzdudler.de	Germany
47	Dietrich Untertrifaller Architekten	Architecture	Architecture	arch@dietrich.untertrifaller.com	Austria
48	Marte.Marte Architekten	Architecture	Architecture	architekten@marte-marte.com	Austria
49	Architecten de Vylder Vinck Taillieu	Architecture	Architecture	mail@architectendvvt.com	Belgium

50	GMP Architekten, von Gerkan, Marg and Partner	Architectur e	Architecture	hamburg-e@gmp-architekten.de	Germany
51	Cobe, Sleth, Ramboll	Architectur e	Architecture	cobe@cobe.dk	Denmark
52	Dorte Mandrup	Architectur e	Architecture	info@dortemandrup.dk	Denmark
53	C.F. Mollers Tegenstue	Architectur e	Architecture	kbh@cfmoller.com	Denmark
54	Ofis arhitekti - Rok Oman & Spela Videcnik	Architectur e	Architecture	info@ofis.si	Slovenia
55	Caruso St. John Architects	Architectur e	Architecture	london@carusostjohn.com	UK
56	David Chipperfield	Architectur e	Architecture	info@davidchipperfield.co.uk	UK
57	Amanda Levete Architects	Architectur e	Architecture	info@ala.uk.com	UK
58	Thomas Heatherwick	Architectur e	Architecture	studio@heatherwick.com	UK
59	Florian Nagler Architekten	Architectur e	Architecture	info@nagler-architekten.de	Germany
60	Nicki & Partner	Architectur e	Architecture	mail@nickl-architekten.de	Germany
61	Diller Scofidio Renfro	Architectur e	Architecture	disco@dsrny.com	USA
62	Hermann Kaufmann	Architectur e	Architecture	office@hermann-kaufmann.at	Austria
63	Henke, Dieter/ Schreieck, Marta	Architectur e	Architecture	office@henkeschreieck	Austria
64	Meili & Peter Architekten	Architectur e	Architecture	arch@meilipeter.ch	Switzerlan d
65	Pool Architekten	Architectur e	Architecture	pool@poolarch.ch	Switzerlan d
66	Anne Lacaton & Jean Philippe Vassal	Architectur e	Architecture	mail@lacatonvassal.com	France
67	Sudraba Arhitektura	Architectur e	Architecture	info@sudraba-architektura.lv	Latvia

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68	ZAIGAS GAILES Birojs	Architectur e	Architecture	zgb@zgb.lv	Latvia
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## 6.2 Definition of Users: User Categorization

### 6.2.1 Focus Groups

Focus groups are widely used in many research fields to investigate new ideas (Kontio, J. et al., 2004). In software, focus groups are used as a cost-effective and efficient methodology for gaining qualitative insights and feedback from experts and non-expert users used in several phases and types of research. We use this method to expand and focus the PUCs by building on prior user experience and incorporating it through updated user requirements and as an evaluation methodology at various stages in the MindSpaces Platform development. The focus groups are elaborated further below.

### 6.2.2 Exploitation Focus Group

The exploitation focus group is being built in the second half of the project as a group of potential companies and individuals that might potentially partner, collaborate, invest, license the platform or its individual components or become some other type of exploitation stakeholder. The demonstration workshops and open days will be used as events to expand the potential exploitation group, receive feedback from existing targeted members, and begin forging network synergies. We will invite this Exploitation subgroup of the User Group to the demonstration workshops to connect with them and see what feedback they have on the first prototypes. This will bring input on the required software features, desirable functionality, and a first understanding of potential commercialisation plans that can be set up through discussion with the partners. This will be an opportunity to show these partners that they are valued, and their input is especially useful in the further development cycles of the MindSpaces project.

### 6.2.3 Artists

As described in D1.5, two Open Calls for Artists were conducted. Each was posted to the MindSpaces Website and disseminated through the project social media channels. It was also announced in the Vertigo Network and shared by all consortium partners. Applicants were asked to define their own scope of research (related to MindSpaces objectives), itinerary (consortium engagement) and deliverables (models, prototypes, artworks). Emphasis was placed on achieving the EU goals of contributing to artistic mobility, shared cultural landscape and supporting the professional development of artists, while creating a research community where art and science interface and make contributions to each other and technological developments can be inspired by artistic practice and inquiry.

From the 1<sup>st</sup> open call the artists Sarah Derat and Hasseb Ahmed were engaged to the project.

From the 2<sup>nd</sup> open call the artists Emanuel Gollob, Joan Martinho Moura, Michael Sedbon and Emmanuel Van der Auwera were selected. In addition to these invited artists, the consortium is composed of global leaders in contemporary and research driven art.

#### 6.2.4 Architecture Professionals

Along with the consortium expert partners in architecture and design, an architecture-related focus group contains 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, but also non-specialized software users with more generalist and traditional architecture background.

Architects operate in all three Pilot Use Cases and so we compose this focus group with a wide range of expertise across urban design, workplace design, installation design, construction detailing and construction management, and interior design.

Being related to all the architecture use cases, 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. Several architecture studios are represented within this group as well as designers. Additionally, academic researchers in computational design, VR / AR / AI development for architecture and others pioneering the future of design are included. Finally, students in top tier undergraduate, postgraduate, and PHD level design research schools will be targeted as young pioneers in this field.

#### 6.2.5 Building Owners, Developers, and Managers

As the project progresses over the next 18 months, potential stakeholders, and partners in the building industry besides designers and architects will be targeted for their vested interest in new technologies in the domain of design, operations, and virtual experience of buildings. This group will primarily include potential exploitation partners including corporate real estate and building owners, real estate managers, CEOs and business owners, and facilities and change management companies. As has been identified in D8.2 and D8.4, there is a great vested interest using new technology including predictive IOT, AI driven workplace analytics, VR/AR tools for virtual experience, and numerous other technologies to improve tenant experience, decrease investment and design risk, and improve designs through data driven solutions. While we include members of the design community as one potential user of our platform, we also see great potential in direct applications of the MindSpaces Platform for these other end users with little design background, but large vested interest in what is being designed. This group will be increased following the V1 and

V2 prototypes to gain valuable insights on the desirable functionality and how to improve user experience and user interaction with the platform.

#### 6.2.6 Citizens, Office Workers, Seniors

A first segmentation of citizens as users was identified in L'Hospitalet by conducting in April 2019 a call for questionnaires to gather information about their feelings on an urban outdoors and particularly in Tecla Sala surrounding. The answers were codified and used to describe these users' requirements. Also, CDH has provided AUTH and other partners with existing data and documents about the main characteristics of the city to identify profiles of citizens, as well as cooperating with UPF with the semantic analysis of data regarding citizen opinions. A second phase will take place in September 2020 through existing groups of interest in cultural networks and social entities to gather more information about citizen's vision and expectations regarding urban outdoors with the following initiatives: a public call through social media to gather pictures of the city; a call of participants to the first pilot test of the VR platform in Tecla Sala; the Dialog project and also the appointed projects on the artistic calls which intend to use real data from users while interacting with a piece of art.

Additionally, a group of office workers from different fields and company sizes is involved in this focus group to test and provide research data and give feedback on the experience of virtual workplaces using the MindSpaces Platform. This group is valuable in PUC2 to evaluate the desires of workers in different workplace environments and understand the user experience from their perspective as an inhabitant of an office design. This group will be involved in the user workshops as well as open days. Increasingly today businesses require diverse and flexible working environments for all kinds of working habits and company cultures. This diversity will be reflected in the group of select individuals.

Through its wide network of association and seniors in Paris, E-Seniors has engaged 27 citizens during two focus groups to establish the main user requirements for the MindSpaces PUC 3 experiment in a senior home. Participants gave feedback on their feeling at home, on the issue of loneliness and on how interior design is related to well-being. They underlined the importance of comfort, light, colour, material texture, feeling of safety, being able to welcome people in their homes, getting rid of cluttered objects, having the presence of a pet, and being surrounded by art. This feedback has been crucial to design the experiment and artistic proposal for PUC3.

## 7 STANDARDIZATION BODIES

MindSpaces 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.

### 7.1 WP4 Standardization Bodies

**Table 8** WP4 Standardization bodies

WP	Standard body	Responsible	Initial Actions	Definition of potential standard contribution
4	Universal Dependencies for Natural Language Generation	UPF	Organized an international competition “Multilingual Surface Realization Shared Task 2019” ( <a href="http://taln.upf.edu/pages/msr2019-ws/SRST.html">http://taln.upf.edu/pages/msr2019-ws/SRST.html</a> ) that made use of semantic dependencies	Development and promotion new semantic annotations aligned with UD syntactic standards for several languages

### 7.2 WP5 Standardization Bodies

**Table 9** WP5 Standardization bodies

WP	Standard body	Responsible	Initial Actions	Definition of potential standard contribution
5	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
5	SPARQL	CERTH	It will provide the standard language for queries	MindSpaces will use SPARQL as the query language.
5	OWL2	CERTH	It will define semantics and annotations.	MindSpaces ontologies are represented in OWL2.
5	SPIN	CERTH	To be used as a rule language	Adoption of a SPARQL-based rule language
5	CameraLink	MU	Related to the acquisition from the	Possibility of adding action recognition to the SDK in the



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			camera	future
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## 8 DISSEMINATION IMPACT ASSESSMENT

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

**Table 10** Measurable dissemination goals

Tool	Metric	Target	Current Value
MindSpaces Website	Number of: <ul style="list-style-type: none"> <li>• Site visits</li> <li>• Site users</li> <li>• Sessions</li> </ul>	20% increase in site metrics / year expected	<ul style="list-style-type: none"> <li>• 2100 site visits</li> <li>• 1400 users (2020)</li> <li>• 1900 Sessions (2020)</li> </ul>
Social Media	Number of: <ul style="list-style-type: none"> <li>• Followers</li> <li>• Engagement (views, likes, comments)</li> <li>• Average reach</li> </ul>	Target: <ul style="list-style-type: none"> <li>• 1000 followers</li> <li>• 100000 total reach</li> </ul>	<ul style="list-style-type: none"> <li>• 534 followers (Facebook)</li> <li>• Average reach: 94 users (M1-M18)</li> <li>• Total reach: 42843 (M1-M18)</li> <li>• 125 followers(Twitter)</li> </ul>
Publications	Number of: <ul style="list-style-type: none"> <li>• Publications in technical, scientific, academic, and industry conferences &amp; journals</li> </ul>	Target: <ul style="list-style-type: none"> <li>• 20+ publications</li> </ul>	<ul style="list-style-type: none"> <li>• 10 scientific publications, 2 media publications</li> </ul>
User Group	<ul style="list-style-type: none"> <li>• Number of users</li> <li>• Diversity of users</li> </ul>	Target: <ul style="list-style-type: none"> <li>• 20+ users</li> <li>• 3+ from each domain (semantics, language analysis, 3D reconstruction and video analysis, designers)</li> </ul>	<ul style="list-style-type: none"> <li>• 12 users by request, 17 users contacted from partners, 68 users under contact</li> <li>• various domains ( Artists, Designers, Architects, Researchers, Academics, Seniors, Citizens )</li> </ul>
MindSpaces Final Demonstration Workshop	Number of: <ul style="list-style-type: none"> <li>• Participants (by target group)</li> </ul>	Target: <ul style="list-style-type: none"> <li>• 200 participants</li> </ul>	n/a

## 9 SUMMARY & CONCLUSIONS

Deliverable 8.3 has updated and detailed the dissemination goals and strategies of MindSpaces and provided updates regarding the dissemination activities that were done during the first 18 months of the project and the foreseen activities for the second half of the project. In addition, the dissemination report included measurable targets such as the number of visitors (for web traffic), number of events MindSpaces participated, as well as number of achieved publications. D8.3 also included the status of the User Group (UG), its categorisation and the cooperation plan. The information regarding the dissemination plan, and material such as flyers will be constantly updated.

This report contains the dissemination activities that mark the completion of the first 18 months of the project as well as their statuses. The dissemination activities for rest of the project will be reported in D8.5 (M36).

## 10 REFERENCES

"Melting Memories" 2019, RefikAnadol work exhibited "Neurones" C. Pompidou Paris. Visual representation from EEG data.

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.