



European Citizens' Panel on Virtual Worlds

Final Report

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1. Introduction



The European Commission convened three European citizens' panels in 2023, one of which discussed the topic of 'virtual worlds'. Each of the panels brought together up to 150 randomly selected citizens from all 27 EU Member States to deliberate and make recommendations ahead of key Commission proposals. The panels deliver on the commitment expressed by the Commission communication of 17 June 2022 'Conference on the future of Europe: putting vision into concrete action' ⁽¹⁾ and by President von der Leyen in the 2022 State of the Union speech.

The European Citizens' Panel on Virtual Worlds was the second panel to be convened, with three sessions taking place on 24–26 February, 10–12 March and 21–23 April 2023. Virtual worlds are part of a wider transition towards Web 4.0. They offer a new kind of online experience through 'virtual', 'mixed' or 'augmented' reality. Many people believe that Web 4.0, starting with virtual worlds, could be an innovation comparable to the appearance of the internet, transforming the way we work and engage with each other in the future. In the last couple of years – and particularly since the COVID-19 pandemic – numerous public and private actors have been investing massively in this 'extended reality', speeding up changes in our workplaces and personal habits.

Despite this increased attention, such a transformation will not happen overnight. Virtual worlds will take many years to develop into a high-quality, realistic digital environment, and there is no clear picture yet of what virtual worlds could and should become. The European Union (EU) and its Members

States are committed to harnessing the potential of this transformation and understanding its opportunities, but also the risks and challenges it poses, while safeguarding the rights of European citizens. In this context, the participants of the European Citizens' Panel on Virtual Worlds were invited to answer the following question: **'What vision, principles, and actions should guide the development of desirable and fair virtual worlds?'** More specifically, citizens were requested to develop a set of guiding principles and actions for the development of virtual worlds in the EU.

The panel deliberated on a broad range of issues in relation to the opportunities and challenges of virtual worlds. The principles and recommendations feed and will feed into the Commission communication 'An EU initiative on Web 4.0 and virtual worlds: a head start in the next technological transition' and the accompanying staff working document.

Based on information materials, expert inputs and debates in working groups and in plenary, participants in the European Citizens' Panel on Virtual Worlds identified and prioritised issues relevant for the Commission's new policy proposal; this report summarises the main features of the European Citizens' Panel on Virtual Worlds, and lays out its methodological framework, the way debates were facilitated, the outputs of the three sessions and the next steps.

⁽¹⁾ Commission communication – 'Conference on the future of Europe: putting vision into concrete action' (COM(2022) 404 final) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0404>).





European Citizens' Panel
Virtual worlds
Have Your Say

2. Main features of the European Citizens' Panel on Virtual Worlds

2.1. RANDOM SELECTION AND DEMOGRAPHIC CHARACTERISTICS OF THE PANEL'S PARTICIPANTS

The participants in the citizens' panel were recruited through random selection, to ensure a fair, consistent and reliable approach to selecting individuals, as needed for such participatory processes. The recruitment was carried out by **Kantar Public**, with the support of 27 national recruitment agencies. In most countries, participants were recruited by telephone

(computer-assisted telephone interviewing), using random digital dialling. In some other countries, however, face-to-face methods (computer-assisted personal interviewing) or random selection from a probabilistic online panel (only Luxembourg) were used. The average acceptance rate across the EU was 4.46 %, with variation between Member States.

Table 1: Number of panel participants per Member State

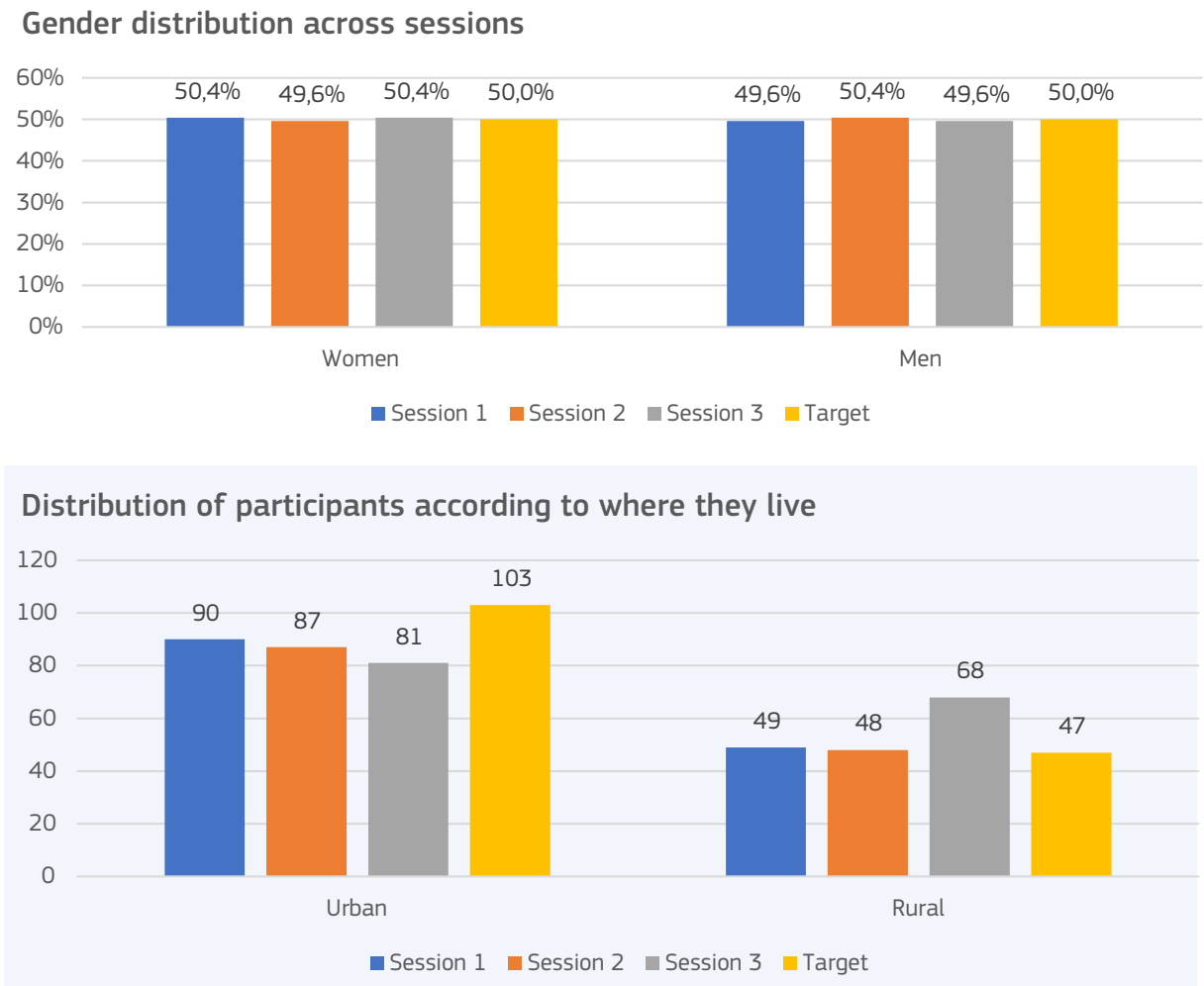
COUNTRY	TARGET NUMBER OF PARTICIPANTS PER SESSION	ACTUAL NUMBER OF PARTICIPANTS PER SESSION		
		Session 1	Session 2	Session 3
Belgium	5	5	5	4
Bulgaria	4	3	4	4
Czechia	5	5	5	5
Denmark	3	3	3	3
Germany	19	18	16	13
Estonia	2	2	2	1
Ireland	3	3	2	3
Greece	5	5	5	4
Spain	12	11	11	11
France	15	14	12	12
Croatia	2	2	2	2
Italy	15	13	13	12
Cyprus	2	2	2	2
Latvia	2	2	2	2
Lithuania	2	2	2	2
Luxembourg	2	1	1	0
Hungary	5	5	5	5
Malta	2	2	2	2
Netherlands	6	6	6	5
Austria	4	4	4	4
Poland	10	10	10	10
Portugal	5	2	2	2
Romania	7	7	7	7
Slovenia	2	2	2	2
Slovakia	3	2	2	2
Finland	3	3	3	3
Sweden	5	5	5	5
Total	150	139	135	127

Table 1 provides an overview of the targeted number of citizen panellists across the EU Member States (country quotas) and the actual number of participants per session. The aim was to reach a level of representation of EU Member States that is proportional to the size of their population, balanced by a minimum of two citizens per country ⁽²⁾. In other words, high targets were set for countries with large populations, such as Germany (19 citizens), while two citizens from Malta and two from Luxembourg were invited. In general, there was a good level of attendance, which broadly reflected the targets set. For 23 out of the 27 EU Member States, the participation targets were

achieved. Overall, out of the 150 citizens invited, 140 took part in at least one of the sessions.

To ensure that the panel reflected the diversity of the EU population to the best possible extent, target quotas for participants were defined according to the sociodemographic characteristics presented in figure 1 (the shares of participants refer to the 140 citizens who actually attended at least one of the sessions). One exception was the choice to over-represent youth by recruiting a third of the panel from the 16–25 category even though this age group represents less than 33 % of the European population ⁽³⁾.

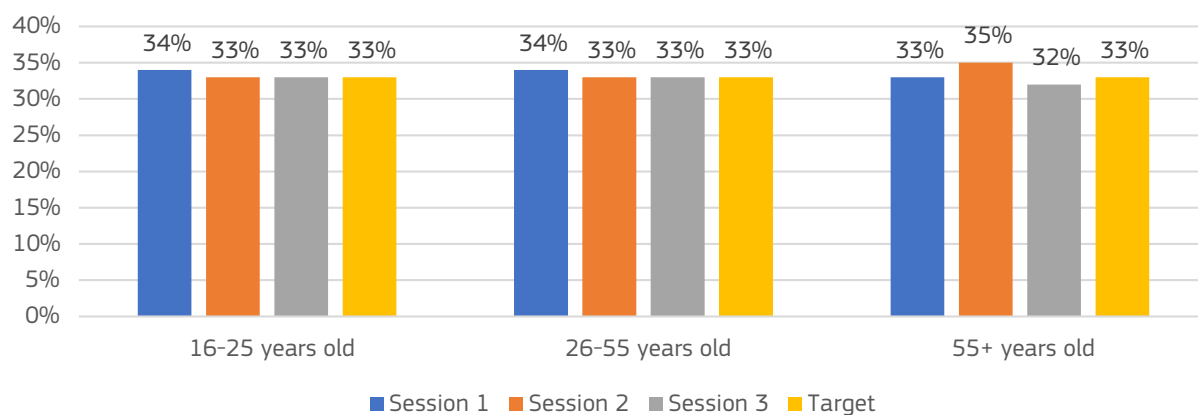
Figure 1: Demographic composition of the panel.



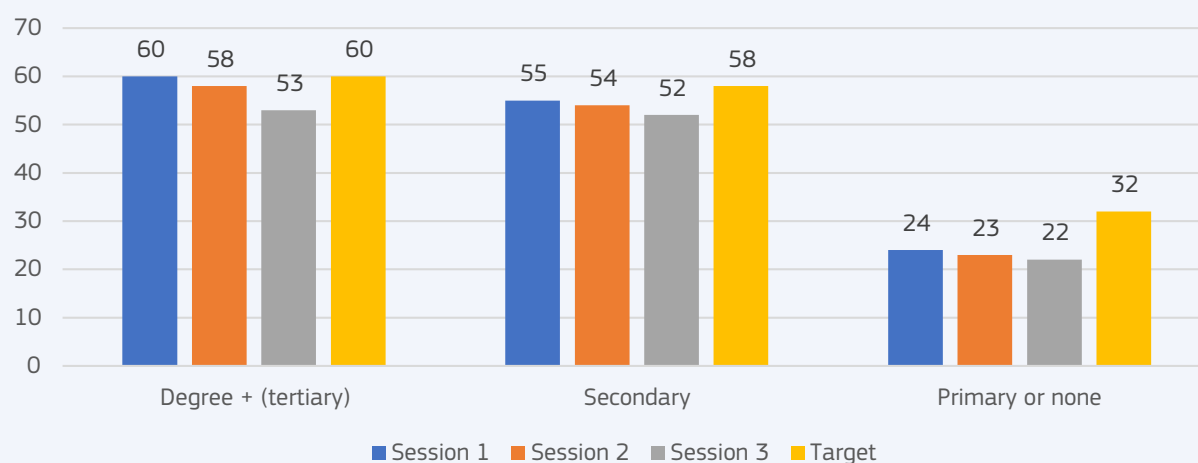
⁽²⁾ The country quotas were generated using the degressive proportionality system, which is also employed to calculate the number of seats per Member State in the European Parliament.

⁽³⁾ On average, this age group represents 10.6% of the EU population (https://ec.europa.eu/eurostat/databrowser/view/TPS00010/default/table?lang=en&category=demo.demo_ind).

Age distribution across sessions



Distribution of participants according to education level





2.2. STEERING COMMITTEE

The Steering Committee designed, organised and conducted the European Citizens' Panel on Virtual Worlds. The committee met once a week to decide on conceptual and organisational matters, including methodology, logistics and budget-related questions. It was composed of civil servants from the European Commission and contractors. On the side of the European Commission, two directorates-general contributed to the work of the Steering Committee: the Directorate-General for Communications Networks, Content and Technology (DG Connect), responsible for interactive technologies and initiatives related to virtual worlds, including the upcoming non-legislative initiative; and the Directorate-General for Communication (DG Communication), in charge of the new phase of citizens' engagement and more particularly responsible for the methodology and organisation of the European citizens' panels.

The contractors worked together to design and implement this new generation of European citizens' panels. The recruitment of citizens was conducted by **Kantar Public**. **VO Europe** and **MCI** were responsible for communicating with and assisting citizen partici-

pants' and for all organisational aspects of the three sessions. In addition, an international team composed of **Missions Publiques** (France), **ifok** (Germany), the **Danish Board of Technology Foundation** (Denmark) and **Deliberativa** (Spain) brought together experts to design and facilitate the deliberative process. The Deliberation Team partners pooled their know-how to conceptualise the overall participatory process and the methodology for each session, together with DG Communication and DG Connect. The Deliberation Team was responsible for drafting a concept note, outlining the panel's remit, together with DG Connect and DG Communication, and for setting up the advisory Knowledge Committee. Moreover, with the support of DG Connect and the Knowledge Committee, it recruited and briefed speakers who helped citizens to understand the issue in its complexity and address citizens' queries during the three sessions. In addition, the Deliberation Team coordinated communications with citizens and with the support team on-site, conducted the main moderation and working group facilitation and oversaw the reporting of results.



2.3. KNOWLEDGE COMMITTEE

The involvement of the Knowledge Committee, composed of experts in the field of virtual worlds, enhanced the integrity of the deliberative process by guaranteeing the quality, objectivity, diversity and comprehensibility of the information provided to citizens. The Knowledge Committee's role was to produce and provide knowledge and expertise to create a level playing field for all participants and facilitate discussions among them. This was done through, among other approaches, the drafting of an information kit, which was distributed to citizens prior to the first session. The factual policy input was developed in close collaboration with the Steering Committee.

The Knowledge Committee also helped the Deliberation Team to identify weak signals (e.g. absence of debate, cross-cutting issues and blind spots within citizens' deliberations (e.g. possible overlaps between ideas and existing EU initiatives and/or areas where proposed action is not necessarily supported by evidence). Its members also engaged in fact-checking and answered citizens' questions during and after the sessions, supported by the Knowledge and Information Centre (KIC), which also involved other experts from the Commission and beyond. Furthermore, the Knowledge Committee members supported the Deliberation Team in its efforts to cluster citizens' interim

outputs into main categories of action, informed by their knowledge and experience of virtual worlds.

The Knowledge Committee was composed of five members selected by the Steering Committee, on the basis of the following criteria: expertise covering a wide variety of knowledge fields; broad recognition of their know-how and experience in the field, among academia, stakeholders and peers; ability to understand, acknowledge and communicate diverse views on the topic, including possible trade-offs; and diversity in terms of gender, nationality and affiliations. In addition, an expert from DG Connect brought in EU policy insights.

The members of the Knowledge Committee were:

- **Fabien Bénéto**, WebXR consultant;
- **Cathrine Hasse**, University of Aarhus;
- **Mariëtte van Huijstee**, Rathenau Institut;
- **Rehana Schwinninger-Ladak**, European Commission, DG Connect;
- **Frank Steinicke**, University of Hamburg;
- **Sara Lisa Vogl**, Women in Immersive Technologies WIIT.

2.4. KNOWLEDGE AND INFORMATION CENTRE

The KIC was set up to reply to questions and requests for clarification sent by citizens during their deliberations. KIC members included experts from DG Communication and DG Connect as well as the members of the Knowledge Committee and other experts. Throughout the three sessions of the European Citizens' Panel on Virtual Worlds, the KIC received more than 150 written questions, 30 of which were answered in written

form between sessions 1 and 2, while the remaining questions were addressed directly by members of the Knowledge Committee during plenaries and working groups. In the third session, KIC members made short interventions in the 12 working groups to clarify any remaining issues before citizens formulated their final recommendations.

2.5. SPEAKERS AND EXHIBITORS

In addition to the members of the Knowledge Committee, stakeholders and experts were invited to present their different positions and experiences as regards virtual worlds. During the first session, an exhibition was organised to allow participants to become more familiar with different possible uses of virtual and augmented reality. In addition, a theatre improvisation play was organised to bring to life the different utopias and dystopias formulated by citizens. The speakers provided information about the impacts of virtual and

augmented reality on the environment, the economy and society. They also debated on the importance of engaging multiple players and the precautions to be taken to minimise possible negative effects. The Knowledge Committee made sure that the knowledge presented to citizens was balanced, adequate and sufficiently representative of the main positions of policymakers and stakeholders in the EU. Table 2 lists the speakers who took the floor during the sessions.



Table 2: Session speakers and exhibition stands

SESSION 1	
Welcoming remarks	Dubravka Šuica , Vice-President for Democracy and Demography, European Commission
	Pia Ahrenkilde Hansen , Director-General, Directorate-General for Communication, European Commission
	Yvo Volman , Director of Data, Directorate-General for Communications Networks, Content and Technology, European Commission
European Commission experts	Rehana Schwinninger-Ladak , Head of Unit, Interactive Technologies, Digital for Culture and Education, Directorate-General for Communications Networks, Content and Technology, European Commission
	Anne Bajart , Deputy Head of Unit, Interactive Technologies, Digital for Culture and Education Directorate-General for Communications Networks, Content and Technology, European Commission
	Gaëtane Ricard-Nihoul , Deputy Head of Unit, Citizens' Dialogues Unit, Directorate-General for Communication, European Commission
Knowledge Committee	Fabien Bénéto , Independent WebXR expert
	Cathrine Hasse , University of Aarhus, Department of Education
	Mariëtte van Huijstee , Rathenau Institute
	Frank Steinicke , University of Hamburg
	Sara Lisa Vogl , Virtual Reality artist, Women in Immersive Technologies Europe
Exhibitions' Stands & Theatre Group	D'un seul geste
	XR Intelligence
	Popul-AR
	CartoonBASE
	Innov4Events
	Lenovo
	Royal museums of Fine Arts of Belgium/ VR Hut
	Rathenau Institute
	United Nations VR movie "Clouds over Sidra"
	Ligue d'improvisation belge - Ligue d'impro ASBL
SESSION 2	
European Commission experts	Renate Nikolay , Deputy Director-General, Directorate-General for Communications Networks, Content and Technology, European Commission
	Yvo Volman , Director of Data, Directorate-General for Communications Networks, Content and Technology, European Commission
	Rehana Schwinninger-Ladak , Head of Unit, Interactive Technologies, Digital for Culture and Education, Directorate-General for Communications Networks, Content and Technology, European Commission
External experts and practitioners	Matthias C. Kettemann , Leibniz Institut
	Elisa Lironi , European Citizen Action Service
	Eric Marchiol , Renault
	Harmen Van Sprang , Sharing Cities Alliance
	Bruno Thomas , The International Consortium of Investigative Journalists
Knowledge Committee	Fabien Bénéto , Independent WebXR expert
	Cathrine Hasse , University of Aarhus, Department of Education
	Mariëtte van Huijstee , Rathenau Institute
	Frank Steinicke , University of Hamburg
	Sara Lisa Vogl , Virtual Reality artist, Women in Immersive Technologies Europe

SESSION 3	
European Commission experts	Roberto Viola , Director-General, Directorate-General Communications Networks, Content and Technology (DG CONNECT), European Commission
	Anne Bajart , Deputy Head of Unit, Interactive Technologies, Digital for Culture and Education, Directorate-General for Communications Networks, Content and Technology, European Commission
	Menno Cox , Head of Sector for the Global Aspects of Digital Services, Digital Services and Platforms, Directorate-General for Communications Networks, Content and Technology, European Commission
	Adelina Cornelia Dinu , Project Officer, Interactive Technologies, Digital for Culture and Education, Directorate-General for Communications Networks, Content and Technology, European Commission
External experts and practitioners	Svenja Falk , Accenture
	Sarah Nicole , Mc Court Institute
	Alexandros Vigkos , Ecorys
Knowledge Committee	Fabien Bénétou , Independent WebXR expert
	Mariëtte van Huijstee , Rathenau Institute
Farewell remarks	Dubravka Šuica , Vice-President for Democracy and Demography, European Commission
	Thomas Skordas , Deputy Director-General, Directorate-General for Communications Networks, Content and Technology, European Commission

2.6. MAIN MODERATORS

Two main moderators guided citizens through all three sessions and steered plenary discussions. They provided information on the general goal of the panel and the methodology of the individual sessions, as well as on the organisational aspects of the sessions. The main moderators also facilitated debates between the expert speakers, ensured that knowledge was provided fairly and impartially during the discussions, and facilitated question-and-answer sessions between speakers and citizens and interactions between moderators

and citizens on content and process. Furthermore, the main moderators brought together all results in the final plenary of each session. The main moderators were:

- **Jennifer Rübel**, ifok;
- **Antoine Vergne**, Missions Publiques.

2.7. FACILITATORS

Citizens worked in 12 working groups, each facilitated and assisted by two members of the Deliberation Team: one experienced facilitator and one assistant. The facilitators' job was to lead the discussions in the working group sessions and enable a smooth workflow by:

- setting a friendly and mutually respectful atmosphere, to promote contributions from all participants;
- ensuring that all citizens were informed about the overall process and guiding them in the group work;
- making sure that the objectives of the working group sessions were reached, that is, facilitating the identification of conflicts and disagreements between citizens and promoting the emergence of debate and consensus between citizens;
- timekeeping, note-taking and consolidating deliberation outputs in multilingual and interlinked working documents;
- linking requests made by the citizens in the working groups to the support team or experts, for example by collecting pending remarks or questions;
- participating in debriefing sessions with the Deliberation Team.

The experienced and professional facilitators were employed by **Missions Publiques, ifok** or the **Danish Board of Technology** foundation. During discussions in the working groups, they were supported by facilitation assistants, mostly consisting of Brussels-based students and trainees. All facilitators and assistants followed the same instructions, provided in a facilitation guide and a roll-out document (one per session). They engaged in two dedicated briefing and training meetings prior to each session.






2.8. OBSERVERS

A limited number of observers were allowed to follow the work of this citizens' panel. The aim was to provide transparency and visibility for this innovative democratic format while preserving a safe space for participating citizens, which is crucial building trust in a debate environment. Observers were permitted to attend and follow the discussions in plenary and working group sessions. The maximum number of observers permitted to each working group session was three.

Internal observers also came from the organising partners and institutions (e.g. internal staff from DG Communication, DG Connect and other directorates-general and EU institutions). External observers included researchers (from universities or think tanks), civil society actors and other stakeholders. With the consent of those concerned, external observers could conduct interviews with citizens for research purposes only, if it did not impede the proceedings of the panels.





A person with long brown hair, wearing a blue lab coat, is shown in profile, looking upwards and to the right. They are in a laboratory setting with blurred equipment and lights in the background. A large blue semi-transparent rectangle covers the lower half of the image, containing white text. There are also some orange and black geometric shapes on the right side of the blue rectangle.

3. Methodological framework and individual sessions

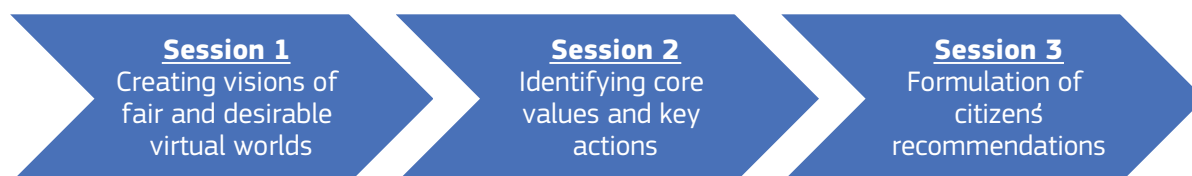


3.1. METHODOLOGICAL FRAMEWORK

The European Citizens' Panel on Virtual Worlds consisted of three sessions, each with different goals.

- In the first session (on-site in Brussels), participants were introduced to the issue in question, and were able to get to know each other and build a sense of community and trust. They received initial experts' inputs and had the opportunity to experience the topic to be considered by the panel through an exhibition on virtual worlds. They reflected on their experience with 'the digital world', and created utopias and dystopias as their visions of the future.
- The second session was an online session and focused on building a deeper understanding of the issue. The main goal of the session was to encourage the exchange of ideas and perspectives among participants, identify areas of consensus and disagreement, and formulate the first ideas for action points in four separate topic blocks. A particularly innovative element of this session was that it was itself conducted through a virtual platform (Hyperfair).
- The third and final session (on-site in Brussels) was dedicated to shaping the recommendations based on the ideas and insights gained in the first two sessions and was supported by further expert inputs. The third session ensured that the citizens' panel produced a final set of values and principles, and concrete recommendations that could be handed over to the Commission and shared with relevant stakeholders.

Figure 2: Overall methodological flow of the panel sessions.



Throughout the panel sessions, there was ample time for team building and exchange, during both plenary sessions and group work. The structure of the sessions was designed to encourage interaction among participants and to ensure that all voices were heard. As the citizens' panel sessions took place in a multilingual setting, citizens were always able to speak in their mother tongue, facilitated by interpretation.

Working groups were composed in a way that allowed sufficient geographical diversity, with a combination of participants from larger and smaller countries and speaking a maximum of five different languages being grouped together. Facilitators were able to lead the discussion in their mother tongue or in English.

3.2. SESSION 1: PROCESS AND OUTPUTS

During the first session, which took place from 24 to 26 February 2023 in Brussels, citizens were introduced to the topic and built a common vision of what

desirable and fair virtual worlds should be like (utopia) and should not be like (dystopia).

Day 1 (Friday 24 February)

With 24 February marking 1 year since the Russian war of aggression against Ukraine, the panel started with a moment dedicated to testimonies from five Ukrainian citizens, sharing their personal experiences of the past year. The commemoration was opened by Vice-President **Dubravka Šuica**.

After that, citizens were welcomed by the main moderators and by European Commission representatives **Pia Ahrenkilde Hansen**, Director-General, DG Communication, and **Yvo Volman**, Director of Data, DG Connect, who gave an overview of the panel's remit. A further introduction was provided by **Gaëtane Ricard-Nihoul** (DG Communication), who briefly presented the EU

institutions and the decision-making and legislative process. After that, **Rehana Schwinniger-Ladak** (DG Connect) introduced the topic of 'virtual worlds' in more detail.

Following the plenary, the citizens participated in an exhibition where they were able to experience concrete use cases of virtual worlds. They also reflected on the most important events, memories and news in relation to their experience of the digital world, both in their personal lives and for European societies as a whole, through an exercise during which participants were invited to create a common timeline.



Day 2 (Saturday 25 February)

On the second day, citizens worked in 12 parallel working group sessions. During the first slot of the day, group discussions focused on citizens' past experiences related to digital and virtual worlds, where they were able to discuss their perceptions, fears and hopes. After lunch, they worked on their visions for the future of virtual worlds. To do this, they first imagined

the European virtual worlds of 2050 and the positive and negative impacts on different aspects of citizens' lives. At the end of the day, they presented this vision of future virtual worlds by creating two collages representing their dystopian vision and utopian vision of the future.



Day 3 (Sunday 26 February)

On the third day, the group reflected on the visions developed during the previous day. They also discussed what knowledge they would need to develop solid recommendations for the European Commission. After a coffee break, all citizens came back for the plenary, and three randomly selected groups presented their vision to all participants. Then, Knowledge Committee members responded to questions raised by

citizens during the working group discussions. To complement their answers, a group of comedians also reacted to the questions. This allowed to complement the scope of answers with a less scientific, rational approach, but a more direct and emotional contact to the topics and questions asked. Final remarks and a farewell were given by the main moderators.



AGENDA FOR SESSION 1

The formal agenda for session 1 is shown in Table 3.

Table 3: Agenda for session 1

Friday (24 February 2023)	PLENARY – CHARLEMAGNE, ALCIDE DE GASPERI ROOM
12:30–14:30	<i>Arrival and lunch</i>
14:30–15:00	Welcome words and Ukraine moment
15:00–15:25	Welcoming speeches and introduction to the citizens' panels
15:30–15:45	Icebreaker
15:45–16:00	Introduction to the panel topic
16:00–16:30	<i>Break</i>
16:30–17:00	Introduction to the exhibition and timeline exercise
17:00–19:00	Mixed format: work in plenary (Gasperi room) and exhibition (visitor centre) in parallel Half of the participants stay in the plenary; the other half go through the exhibition. Change after an hour.
Saturday (25 February 2023)	WORKING GROUPS
9:30–11:00	Reflections and sharing experiences
11:00–11:30	<i>Break</i>
11:30–12:30	Virtual worlds: what we know
12:30–14:00	<i>Lunch break</i>
14:00–15:45	Developing visions
15:45–16:15	<i>Break</i>
16:15–18:00	Developing visions
Sunday (26 February 2023)	WORKING GROUPS AND PLENARY
9:15–10:15	Working groups: gathering questions
10:15–11:15	<i>Break and transfer of the groups to Charlemagne</i>
11:15–11:45	Plenary: presentation of visions from the groups
11:45–13:15	Plenary: discussion round and theatre
13:15–13:30	Hyperfair platform presentation and questions
13:30–13:45	Wrap-up

3.3. SESSION 2: PROCESS AND OUTPUTS

The second session of the panel was held online on 10–12 March 2023, on the immersive platform Hyperfair. Based on the outcomes of session 1, the Knowledge Committee identified four cross-cutting themes of interest to the citizens:

1. economy, jobs and businesses (including learning and skills),
2. safety and security (crime – cybersecurity; data and digital; personal safety/security),

3. health and well-being / environment (mental and physical health),
4. society (inclusiveness, accessibility, democracy).

The goal of this session was to start working on values and actions that could guide the construction of fair and desirable European virtual worlds.

Day 1 (Friday 10 March)

On the first day, the citizens were welcomed to a virtual plenary on the Hyperfair platform by the two moderators. The moderators then briefly walked citizens through the agenda for session 2, before giving the floor to experts for input on each of the four topics.

Topic block 1. Economy, jobs and businesses (including learning and skills):

- **Harmen Van Sprang**, Sharing Cities Alliance,
- **Eric Marchiol**, Renault.

Topic block 2. Safety and security (crime – cybersecurity; data and digital; personal safety/security):

- **Mariëtte van Huijstee**, Rathenau Institute, the Netherlands,
- **Fabien Bénéto**, independent WebXR expert, Belgium.



Plenary Room on the Hyperfair platform

Topic block 3. Health and well-being / environment (mental and physical health):

- **Sara Lisa Vogl**, virtual reality artist, Women in Immersive Technologies Europe, Denmark,
- **Bruno Thomas**, International Consortium of Investigative Journalists.

Topic block 4. Society: inclusiveness, accessibility, democracy:

- **Elisa Lironi**, European Citizen Action Service,
- **Matthias C. Kettemann**, Leibniz Institut.

Following these inputs, **Yvo Volman**, Director of Data, DG Connect, presented the [Declaration of EU digital rights and principles](#) to the citizens.

Day 2 (Saturday 11 March)

On the second day, citizens worked in 12 parallel working group sessions, with simultaneous interpretation, facilitated by experienced facilitators. During the first round, each group worked on the 'Declaration of EU Digital Rights and Principles' and identified the three most important values for them. During the second round, each topic block was assigned to three working groups, which were asked to formulate up to three areas of action that could help to achieve desir-

able and fair virtual worlds. During the third to fifth rounds, the groups developed feedback on the other topic blocks. To do this, a facilitator presented the action points developed by a previous group. The group receiving these action points then gathered suggestions, comments and questions on them for an hour, before moving to a new topic block. The topics discussed by the 12 subgroups are shown in Table 4.



Table 4: Topics discussed by the 12 working groups

Group numbers	TOPIC
1, 2, 3	Economy, jobs and businesses (including learning and skills)
4, 5, 6	Safety and security (crime – cybersecurity; data and digital; personal safety/security)
7, 8, 9	Health and well-being / environment (mental and physical health)
10, 11, 12	Society (inclusiveness, accessibility, democracy)

Day 3 (Sunday 12 March)

On the third day, the groups received the feedback collected during the previous session, before finalising the values and areas of action that they had started to work on.

After a coffee break, all citizens gathered in the virtual plenary. First, **Renate Nikolay**, Deputy Director-General, DG Connect, gave citizens further background on ongoing Commission work. Then, randomly selected

representatives of each topic block presented their action points. Two members of the Knowledge Committee, **Rehana Schwinninger-Ladak** (DG Connect) and **Frank Steinicke** (Department of Informatics, University of Hamburg), reacted to those points. Final remarks and a farewell were given by the main moderators.

AGENDA FOR SESSION 2

The formal agenda for session 2 is shown in Table 5.

Table 5: Agenda for session 2

Friday (10 March 2023)	PLENARY
14:10–14:25	Welcome and review of session 1 output
14:25–14:50	Discussion of the topics: economy, jobs and businesses
14:50–15:10	<i>Break</i>
15:10 –16:05	Discussion of the topics: safety and security, and health and well-being / environment
16:05–16:25	<i>Break</i>
16:25–16:50	Discussion of the topics: society: inclusion and access
16:50–17:10	<i>Break</i>
17:10–17:50	Presentation of the Declaration of EU Digital Rights and Principles
17:50–18:00	Next steps and closing remarks
Saturday (11 March 2023)	WORKING GROUPS
9:30–10:45	Block 1: our core values for European virtual worlds
10:45–11:15	<i>Break</i>
11:15–12:30	Block 2: key actions points for theme 1
12:30–14:00	<i>Lunch break</i>
14:00–15:05	Block 3: feedback and action points for theme 2
15:05–15:20	<i>Break</i>
15:20–16:25	Block 4: feedback and action points for theme 3
16:25–16:55	<i>Break</i>
16:55–18:00	Block 5: feedback and action points for theme 4
Sunday (12 March 2023)	WORKING GROUPS
9:30–10:50	Ranking metaverse values and consolidating action points
	PLENARY
11:05–11:15	Discussion with Renate Nikolay, Deputy Director-General of DG Connect, European Commission
11:10–12:05	Presentation and feedback session 1
12:05–12:25	<i>Break</i>
12:25–13:15	Presentation and feedback session 2
13:15–13:25	European citizen values for a future metaverse
13:25–13:30	Wrap-up and closing remarks

3.4. SESSION 3: PROCESS AND OUTPUTS

During the third session, on 21–23 April 2023, the citizens finalised their recommendations. Meeting in person in Brussels, they discussed the feedback and input provided by speakers and the Knowledge Committee

in working groups, before finalising the recommendations. In a final assessment, each citizen expressed their level of support for each of the recommendations.



Facilitators count votes during the discussion on values.

Day 1 (Friday 21 April)

On the first day, the citizens were welcomed to the plenary by the two main moderators. Moderators then briefly walked citizens through the agenda for session 3 and welcoming words were given by **Roberto Viola**, Director-General, DG Connect. The citizens were then separated into two half-plenary discussion groups.

→ The first discussion revolved around issues that participants had identified during the second session and that were key to the discussions on the final recommendations. The goal was to make the group think about unresolved issues around digital identity and economic models.

→ The second discussion focused on the values that were put forward by citizens in the previous session. The goal was to give them the opportunity to reflect on those values before starting discussions on the final recommendations.

These discussions served as an underlying basis for the deliberations of the working groups on day 2. The goal was to provoke cognitive distress, allowing the citizens to recognise the complexity of the matter in question.

Day 2 (Saturday 22 April)

During the second day, citizens worked in subgroups to develop their final recommendations. Experts visited the working groups to answer remaining questions.



Day 3 (Sunday 23 April)

In the final plenary session, rapporteurs for the 12 working groups presented their respective recommendations to the whole citizens' panel, and citizens had the opportunity to ask questions to clarify any uncertainties. Following the presentation of all recom-

mendations, citizens were asked to express their level of support for each recommendation, on a scale of 1–6, using anonymous paper ballots, with 1 meaning 'I strongly disagree' and 6 meaning 'I strongly agree'.

AGENDA FOR SESSION 3

The formal agenda for session 3 is shown in Table 6.

Table 6: Agenda for session 3

Friday (21 April 2023)	PLENARY – CHARLEMAGNE, ALCIDE DE GASPERI ROOM
13:00–14:30	<i>Arrival and lunch</i>
14:30–14:50	Welcoming words
14:50–15:00	Input from Director-General for DG Connect Roberto Viola
15:00–15:20	<i>Break – room change</i>
15:20–18:30	Half-plenary Half of participants work on tensions (economic models / digital identity) Half of participants work on values Then switch
Saturday (22 April 2023)	WORKING GROUPS
9:30–11:00	Session 1: from action points to recommendations
11:00–11:30	<i>Break</i>
11:30–13:00	Session 2: expert input and question-and-answer sessions in groups
13:00–14:30	<i>Lunch break</i>
14:30–16:00	Session 3: review of another group's work
16:00–16:30	<i>Break</i>
16:30–18:00	Session 4: finalisation of recommendations
Sunday (23 April 2023)	PLENARY
9:30–11:15	Presentation of recommendations
11:15–11:45	<i>Break</i>
11:45–12:30	Presentation of recommendations
12:30–13:30	Voting results Closing words from DG Connect and Vice-President Dubravka Šuica Wrap-up and goodbye
13:30–13:40	<i>Group picture</i>

The citizens' panel produced 23 recommendations, which received very similar levels of support during the final voting on the last day. The full recommen-

ations, including title, main body text and justification, can be found in the annex (A.2).





4. Next steps

In their work to develop the recommendations, citizens showed a **high level of commitment and engagement** and managed to lay out a future-oriented version for virtual worlds, despite the complexity and novelty of a topic where many variables remain unknown. During the first panel meeting, they participated in an exhibition where they could learn more and experience concrete examples and use cases of virtual worlds while the online section was itself conducted through a virtual worlds platform.

The 23 recommendations of this panel – as listed in the annex – take **a broad systemic approach** and address the emergence of virtual worlds more generally. Citizens' recommendations underline that the development of virtual worlds should be based upon EU digital rights, laws, and values, hereby aiming for inclusive, accessible, transparent, and sustainable virtual worlds. For example, they recommend action to ensure accessibility to virtual worlds for all, request user-friendly data consent forms and stress the importance of green energy use in the development process. Citizens also emphasized the need for close collaboration across all relevant stakeholders, including academic, business and legislative actors. Through standard-setting based on democratic values, citizens expressed the clear hope of **Europe becoming a strong global player** on new virtual worlds, hereby contributing to the shaping of global norms.

The recommendations reaffirm the need for an **evidence-based approach** to guide the development of **human-centric** virtual worlds, highlighting the importance of research to evaluate health impacts and inclusive participatory forums to establish common standards. The recommendations equally recognize the importance of **awareness-raising, education and the digital literacy of citizens**.

Citizens' recommendations associate virtual worlds with the need for policies to help grasp opportunities and address challenges. For example, the **labour market should take into account the specificities of virtual worlds** to fully benefit from digital business opportunities. Virtual worlds should be compatible to the wider goal of the **circular economy**, and related actions should both address the responsibility of industry and citizens. At the same time, citizens also spent significant time on discussing safety and security aspects, including law enforcement, privacy and the protection of vulnerable groups. Citizens want virtual worlds that are **properly monitored** for anti-social behaviour and criminality, and not leaving it to very large platforms to self-regulate.

Some recommendations reflect the European Commission's **recent and ongoing work** with Member States and stakeholders in relation to digital transformation, reaffirming the need for EU-level action in this area. Recent legislation (such as the Data Governance





Act, the Digital Markets Act, the Digital Services Act) as well as proposed legislation (such as the Artificial Intelligence Act, and Data Act) reflect well the needs of safeguards and fair market conditions put forward by the citizens while ensuring a sustainable, human-centric digital transformation is the main objective of the European Declaration on Digital Rights and Principles. Furthermore, the Commission launched the Virtual and Augmented Reality Industrial coalition in September 2022. It facilitates dialogue with stakeholders, helping to inform policymaking and identify key challenges and opportunities for the European VR/AR sector.

Citizens' recommendations also indicate **points for further consideration**, such as, the call for personal data security. Whilst overarching European legislation already exists on the subject (the General Data Protection Regulation (GDPR)), the impact of virtual worlds on the use of new types of data such as biometric one, could be further considered in the Commission's work.

The citizens' recommendations also **reveal some areas of possible future action** by the Commission, Member States and other players. In line with the recommendations from the citizens, the Commission proposes in the **Communication** on "An EU initiative on Web 4.0 and virtual worlds: a head start in the next technological transition", a number of actions responding to the concerns of citizens.

In view of the competences of the Union and available resources, the actions put forward in the Communication address the following recommendations: Recommendation 4 (Financial support for the development of Virtual Worlds), Recommendation 5 (Participatory forums for joint developments, regulations and standards), Recommendation 10 (Teacher training on Virtual

Worlds and digital tools), Recommendation 14 (Virtual Worlds - let's build a healthy future together responsibly!), Recommendation 23 (EU as a strong player/pioneer in the Virtual Worlds). Some recommendations put forward are being developed in different strands of work such as Recommendation 19 (EU needs to develop regulations on digital identity) with the proposal for Digital Identity. The actions announced aim at fostering a joint approach with Member States and stakeholders to further **build awareness** and **support the development of accessible, open, safe and sustainable virtual worlds**; having user-friendly information and tools for citizens to manage **virtual identities**, data and virtual assets when using virtual worlds, supporting European research and development, supporting open standards and better understanding the impact of virtual worlds on health and wellbeing.

The outcome of the panel will support the overarching work of the Commission and can also **serve as a guide to help Member States in developing policy actions related to virtual worlds**. Regarding the European Commission's policymaking, the recommendations complement the results of the public consultation carried out by the Commission and provide a reference point for the Commission's overall approach and future action. The work carried out by citizens is a precious **source of inspiration** and relevant input for the years to come and will **feed into its work and policy proposals** related to emerging virtual worlds. Furthermore, the recommendations provide a valuable basis for actions by the many stakeholders involved in developing new virtual worlds. Citizens will be kept informed of key developments in virtual worlds, such as the adoption of the initiative and new initiatives stemming from their work in the panel.



Annex: Panel output

1. VALUES & PRINCIPLES

8 common citizen values & principles for desirable and fair European Virtual Worlds



During the 3rd session (Friday 21 April), and building on the aforementioned 8 values, citizens were asked

to prioritize two values they deem important for each of the 12 topics used for the final recommendations.

nr.	TOPIC	VALUES
1	Virtual Worlds in work and job markets	Education & Literacy, Health, Sustainability
2	Supporting innovation & development of Virtual Worlds	Education & Literacy, Sustainability, Transparency
3	Public & private: rating & registration of Virtual Worlds	Safety & Security, Human centric, Health
4	Data in Virtual Worlds: use & protection	Safety & Security, Human centric, Education & Literacy
5	Central agency & police for Virtual Worlds	Safety & Security, Human centric, Education & Literacy
6	Learning & education on Virtual Worlds	Sustainability, Health, Education & Literacy
7	Environmental & climate sustainability	Transparency, Inclusion, Education & Literacy
8	Health impact & research agenda for Virtual Worlds	Inclusion, Education & Literacy, Sustainability
9	Information sharing & awareness	Human Centric, Sustainability, Safety & Security
10	Digital identity in Virtual Worlds	Safety & Security, Human Centric, Freedom of Choice
11	Connectivity & access for Virtual Worlds	Health, Freedom of Choice, Sustainability
12	International cooperation & standards	Human Centric, Safety & Security, Health

2. RECOMMENDATIONS

FINAL RECOMMENDATIONS

Topic: Virtual worlds in work and job markets

Recommendation 1

Labour markets in the European virtual worlds

What

Using Member States' existing labour market legislation as a point of departure, we recommend assessing, and where necessary, adjust and harmonise legislation for the European virtual worlds.

Who

This recommendation is addressed to those who want access to the European virtual labour market.

How

This legislation for example relates to work-life balance, citizens' right to breaks and disconnection, assistance for job loss due to virtual worlds, citizen inclusion (i.e., inclusion of disabled persons, those who lack digital skills).

This legislation should limit the access to the EU market for those countries who do not respect EU labour laws. This would mean that they would not be able to provide metaverse services (i.e., operation and monitoring) within the European single market, in order to protect European workers and preserve the single market.

Justification

You should support this recommendation because it will secure the European labour market. It aims to defend certain European values and principles regarding labour rights and protections. This will also assure that Europe's high labour standards are respected and exported globally.

Recommendation 1

LABOUR MARKETS IN THE EUROPEAN VIRTUAL WORLDS



Recommendation 2

Creation of harmonised training for work in the virtual worlds

What

With the goal of equality and inclusion for all Europeans, we recommend the provision of virtual worlds training and upskilling, that is European-funded and harmonised across the European Union.

Who

This recommendation aims at protecting European workers.

How

We propose the harmonisation of training across all European Member States. Recognising national contexts, training should aim to broadly include the same content and should follow the same framework across European countries. There should be a certification and mutual recognition of qualifications.

Justification

You should support this recommendation because it will guarantee workers' acceptance of virtual worlds. We wish to protect the European labour market and preserve European jobs. Those whose jobs are made obsolete by virtual worlds should receive sufficient training, support, and requalification to adapt to the new reality.

Recommendation 2

CREATION OF HARMONISED TRAINING FOR WORK IN THE VIRTUAL WORLDS



Topic: Supporting innovation & development of virtual worlds

Recommendation 3

Regular review of existing relevant EU-guidelines to virtual worlds

What

We recommend a periodic review, and update, of the existing EU guidelines regarding ethical and technological standards, and their adaptation and application to virtual worlds.

Who

The European Commission, more precisely DG CNECT, is responsible for the review process. Within this process, experts' input must be taken into consideration. Finally, the results are submitted to the European Parliament for approval.

How

Step one: defining the responsibility within DG CNECT

Step two: DG CNECT determines which exact guidelines are relevant and important for this process

Step three: review of these guidelines, taking experts' input into account

Step four: drafting of proposals for adjustments of these guidelines

Step five: submitting the proposals to the European Parliament for approval

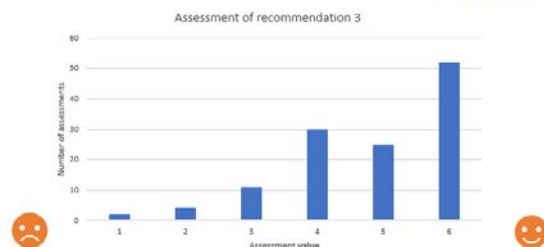
The whole process is repeated regularly, at an interval of no more than two years.

Justification

Citizens did not provide a justification.

Recommendation 3

REGULAR REVIEW OF EXISTING
RELEVANT EU-GUIDELINES TO
VIRTUAL WORLDS



Recommendation 4

Financial support for the development of virtual worlds

What

We recommend establishing European co-financing for the development of a sustainable and user- centred building of -and expansion of virtual worlds.

Who

European Commission with approval of the European Parliament.

How

First step: define criteria for support.

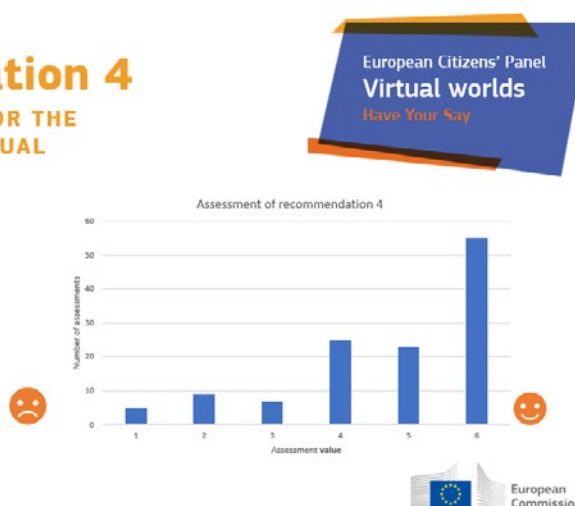
Second step: provision of funding.

Justification

Citizens did not provide a justification.

Recommendation 4

FINANCIAL SUPPORT FOR THE DEVELOPMENT OF VIRTUAL WORLDS



Topic: Public & private: rating & registration of virtual worlds

Recommendation 5

Participatory forums for joint developments, regulations, and standards

What

We recommend that companies, researchers, and the EU work together in close collaboration to develop and regulate virtual worlds in accordance with the values of the EU.

Who

The European Commission should take the lead on this.

How

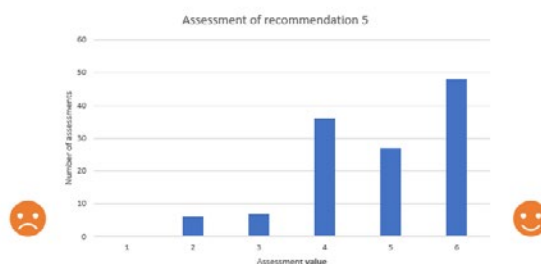
Different groups of experts (researchers, stakeholders, legislators, officials, but also users) should meet according to topics such as education, mental health, etc. This collaboration should be institutionalised, meaning regular and well-prepared meetings with input upfront, as well as online- exchange on the topics. The collaboration could also entail funding of the EU for start-ups and others to develop virtual worlds according to EU values, such as (data) safety & security, health, humanism, transparency, equal access, and freedom.

Justification

Common legislation guarantees fair and secure opportunities for all EU citizens to use and participate in virtual worlds.

Recommendation 5

PARTICIPATORY FORUMS FOR JOINT DEVELOPMENTS, REGULATIONS AND STANDARDS



Recommendation 6

Company and user certification for the virtual worlds

What

We recommend setting up an EU institution, or body, to issue and verify certificates for virtual worlds and individuals, on the basis of EU values, and that should regularly audit the certified virtual worlds and users.

Who

The institution should be set up by the EU and should involve companies and the private sector.

How

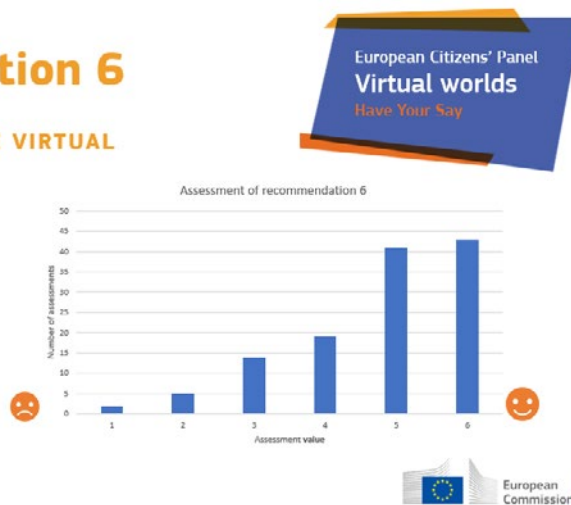
The certificates would be based on common standards that have to be defined. Certificates could be different depending on the level of usage of a virtual world. For example, the standards that need to be applied for gaming would be different to standards for online-banking, and thus the certificates would be different. Also, certificates could approve the accessibility, e.g., for blind persons. Experts should be involved in the formulation of such standards, and also define a time frame in which certificates should be reviewed.

Justification

An independent body would guarantee that the values of the EU would be adherent to the virtual worlds used by citizens.

Recommendation 6

COMPANY AND USER CERTIFICATION FOR THE VIRTUAL WORLDS



Topic: Data in virtual worlds: use & protection

Recommendation 7

User-friendly 'hallway', or 'gate' in the metaverse to opt-in to selected data usage

What

We recommend a standardised and user-friendly mechanism providing transparency on data (who collects the data, what is it used for, how is it stored, and who is it shared with), through which permission for use is given explicitly.

Who

A public body, or a publicly funded body at the EU level, which might exist already: perhaps a body attached to the European Parliament, as a direct form of representation may be preferred.

How

There is a need to explain which data is being collected from users on virtual platforms, and how the data will be shared and used. For example, a color-coded 'door' in the 3D virtual world would indicate data usage in clear terms, before entering a platform (a red door would indicate that a high level of sensitive data may be shared). People should have the choice to opt-in on how their data will be used, wherever possible. Such a mechanism should be mandatory and standardized for companies: to achieve this, we need new regulations, and a model mechanism created by the EU that companies will have to use.

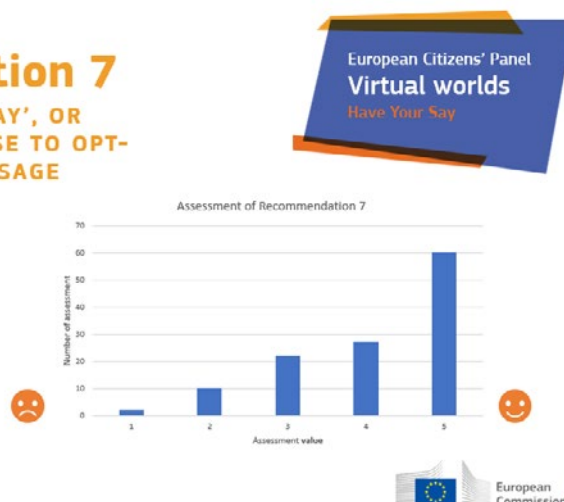
Justification

We cannot prevent data from being used completely: it would dramatically affect the competitiveness of firms. At the same time, we cannot truly refuse to give any information, as all activities in the metaverse can be processed somehow. However, there should be consent. We need clarity on what is used and how it is used, so that we can actively opt-in to such usage.

Challenge: what to do with historical data, that was given to companies willingly, and that is needed for innovation and marketing?

Recommendation 7

USER-FRIENDLY 'HALLWAY', OR
'GATE' IN THE METAVERSE TO OPT-
IN TO SELECTED DATA USAGE



Topic: Central agency & police for virtual worlds

Recommendation 8

A police to act and protect in the virtual worlds

What

We recommend having an international police institution, with specialised and trained agents: it has to be a body cooperating with others, such as Europol and national bodies.

How

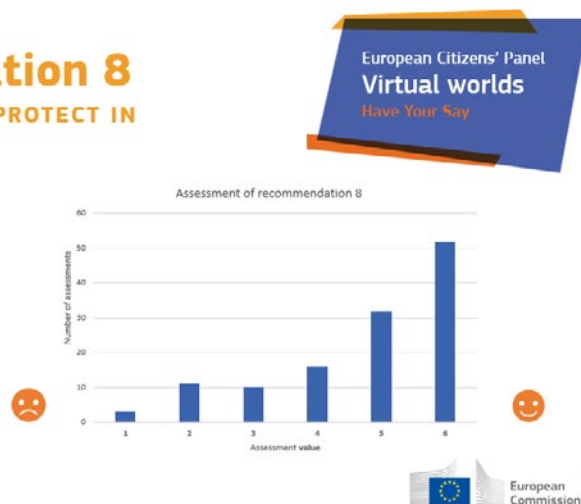
There are three fields of action to distinguish: "classic" crimes like the ones in the real world, undesirable behaviours that have increased in the virtual worlds (hate, bullying...) and protection against oneself. For the second category, we should first support the person acting wrong to learn from its mistakes. When behaviours persist, we need to act quickly and gradually. At some point, it should become reprehensible (from suspension to definitive expulsion). For protection, whenever police observe someone with dangerous behaviour against themselves (like addiction), police should advise the person. Police, through this control, will be taking care of and preventing problems. Also, we want to recall our first objective, which is prevention through education (for example to learn a safe use of these tools).

Justification

Powers should not be all in the hands of one organisation. It cannot be done by a private organisation - we need public bodies to act as police. The cooperation aspect is crucial for transparency issues, cross control, and respect of national organisations (each country has its own police). The international aspect is also necessary because online tools such as virtual worlds have no frontiers, so we must cooperate.

Recommendation 8

A POLICE TO ACT AND PROTECT IN THE VIRTUAL WORLDS



Recommendation 9

Artificial intelligence as a support for the police in virtual worlds

What

We recommend using Artificial intelligence (AI) in the metaverse to support the police in preventing, fighting crimes, and controlling what is happening in virtual worlds.

Who

The definition and enforcement of the ethical principles of AI should be established by an independent European public body, such as a constitutional court.

How

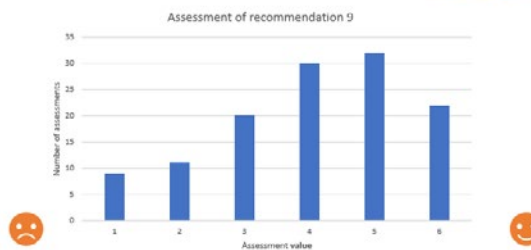
The ethical principles defining this AI should be similar to a constitution in democracy. This constitution will follow ethical principles defined democratically (to prevent any risk of creating a “big brother” - we must prevent AI from influencing behaviours). These principles must be long-lasting and must not be under the direct influence of a party or person in power.

Justification

It is essential that AI helps the police and does not replace it. As for our other recommendation, it is also important that this AI is publicly financed, owned, and managed. No private company can be in charge. If we want to produce it and if we need knowledge from private companies, we can contract them. They will work strictly based on previously defined ethical principles. AI is useful to help the police act quickly and is just one tool amongst others.

Recommendation 9

ARTIFICIAL INTELLIGENCE AS A SUPPORT FOR THE POLICE IN VIRTUAL WORLDS



Topic: Learning & education on virtual worlds

Recommendation 10

Teacher training on virtual worlds and digital tools

What

We recommend teachers within the EU to receive training on (1) the practical use of digital tools, (2) risks, safety, and ethics within the virtual worlds, and (3) on new teaching opportunities through virtual worlds.

Who

The EU targets Member States and schools in order to improve students' education.

How

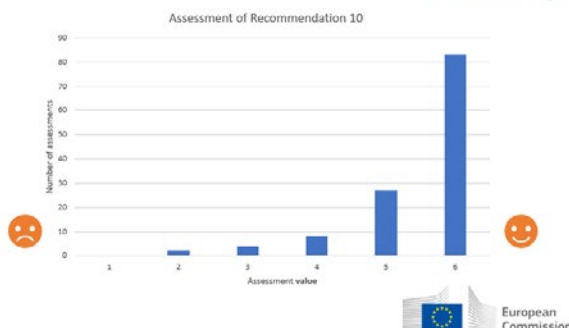
The EU should issue strong guidelines calling Member States to include "Virtual worlds and digital tools courses" to their national teacher training. Teachers should also receive compulsory "refresher" courses which would lead to an EU certificate (following the language certificate model). These mandatory training sessions should be adapted to all ages and should include the following subjects: ethics, online safety, digital tool mastery and teaching opportunities of the virtual worlds. The EU should provide these training programmes to the Member States. These tools and teaching opportunities are an addition to the school curricula, not a replacement of other subjects.

Justification

Training teachers means that they are able to train their students and to raise awareness among the young from the very beginning. It also helps to reduce the digital gap existing between teachers and students. We believe that providing training on safe online behaviours and on the safe use of virtual worlds needs to be taught as early as primary school. Therefore, the EU needs to encourage Member States to include this teacher training and offer incentives via an EU certification. The EU should provide the training program in order to have a standardised system.

Recommendation 10

TEACHER TRAINING ON VIRTUAL WORLDS AND DIGITAL TOOLS



Recommendation 11

Free access to information about digital tools and to virtual worlds for all EU citizens

What

We recommend that the EU guarantees free and easy access to relevant information about digital tools and virtual worlds for all citizens.

Who

The EU for all citizens.

How

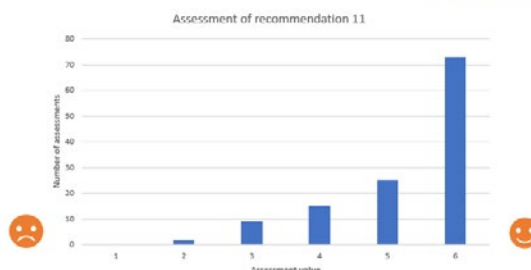
We recommend the launching of a communication system through traditional media (TV commercials, billboards) and the creation of a dedicated platform. This 'European Virtual Worlds Platform' should centralise and standardise relevant information regarding digital tools and virtual worlds. These informational sources have to raise awareness about the risks of virtual worlds and to underline the advantages of these new technologies.

Justification

It is important that the EU works towards a standardisation of knowledge and the access to virtual worlds and digital tools across the EU. A lot of citizens are still vulnerable when using these platforms and subject to ill-intentioned people.

Recommendation 11

FREE ACCESS TO INFORMATION ABOUT
DIGITAL TOOLS AND TO VIRTUAL WORLDS FOR
ALL EU CITIZENS



Topic: Environmental & climate sustainability

Recommendation 12

For circular virtual worlds: rights and responsibility of citizens and industries

What

We recommend developing awareness-raising actions on environmental footprint and ensure that virtual worlds' equipment is part of the circular economy. Virtual worlds legislation must oblige industrial actors to produce recyclable/repairable equipment and limit issues regarding obsolescence.

Who

- The European Commission (to define the framework)
- Member States/regions (to implement the awareness raising actions),
- European citizens (of all ages since they are the target of these measures),
- Companies producing virtual worlds equipment (to integrate circularity principles in their business model).

How

More concretely, these awareness-raising actions must start at school. The European Commission must provide a framework to give access to this information on virtual worlds and make it more accessible so, the Member States and regions would have to implement these educational programmes.

This could be, for example, the establishment of training centres that would provide courses and issue certificates (following a "test" like a driving license) that students would have to pass to prove that they are informed on the environmental impact of virtual worlds. People should be trained and those who want to access more information should be given the opportunity to learn more. Therefore, it is necessary to ensure that information is easily accessible.

Awareness campaigns will always be useful, but they must be followed by binding instruments such as regulations. It is necessary to give the time to the industry stakeholders to get ready with a concrete transitional period. Awareness should be aimed at consumers, while binding legislation should be aimed at industry.

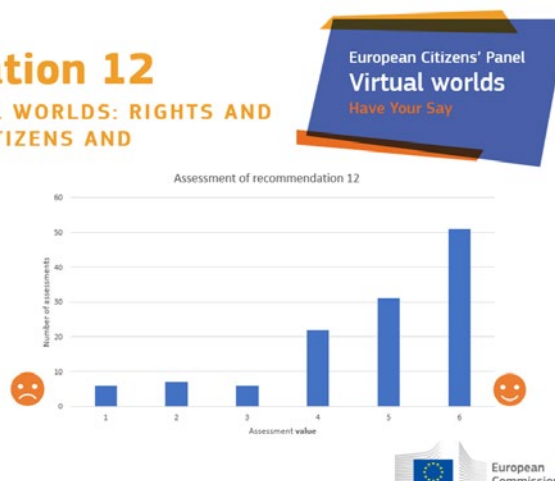
Justification

The European Commission should develop awareness raising actions about the recycling of metaverse equipment but also encompassing all the metaverse lifecycle. It is necessary to start very early; from the youngest age (at school in particular), but also for elderly people. This information must be personalized and adapted to the target audience.

These actions should be followed by a coherent legislation to force industry stakeholders to produce recyclable/repairable products and to limit the obsolescence of their products.

Recommendation 12

FOR CIRCULAR VIRTUAL WORLDS: RIGHTS AND RESPONSIBILITY OF CITIZENS AND INDUSTRIES



Recommendation 13

Green virtual worlds with renewable and transparent energy

What

We recommend establishing a system of penalties and rewards to be imposed on companies working in virtual worlds, in order to internalise the environmental cost of their equipment.

Who

- The European Commission to develop the appropriate regulatory framework.
- Member States providing financial incentives to encourage companies to adopt more sustainable solutions in their business models.
- Companies that operate data centres and store virtual worlds related data in the EU single market should comply with the legislation. They would be the first target of the recommendation.

How

The European Commission should require companies that run data centres and virtual worlds-related equipment to offset the energy they use. It could be a similar system than the carbon market to force

these companies to pay for the pollution they emit. This solution could be followed by financial incentives to encourage companies to be more sustainable and energy efficient. A monitoring system should be developed to ensure an efficient implementation.

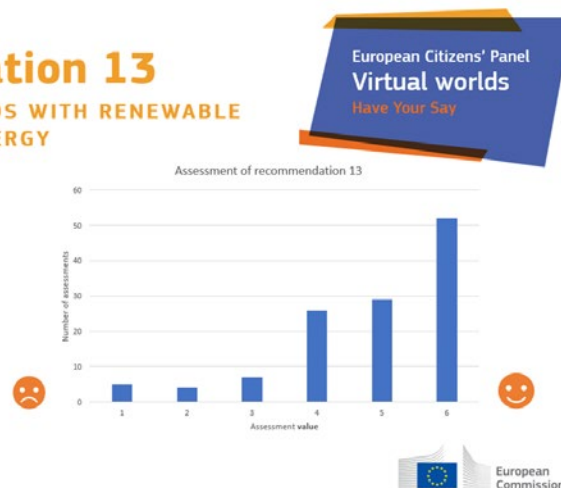
Greater transparency should also be put forward: consumers must be able to know the environmental footprint of their virtual worlds usage and make informed choices. This can be done through a rating system that companies should put on the products they sell to measure their level of sustainability, as well as a traceability system.

Justification

Citizens did not provide a justification.

Recommendation 13

GREEN VIRTUAL WORLDS WITH RENEWABLE
AND TRANSPARENT ENERGY



Topic: Health impact & research agenda for virtual worlds

Recommendation 14

Virtual worlds - let's build a healthy future together responsibly!

What

We recommend that the European Union sets up an intensive research programme on the impact of virtual worlds on our health.

Who

Each Member state must set-up an experts' committee at the national level, in collaboration with a European body. European institutions and Member States should participate in the funding of these research programmes.

Independent experts coming from different fields of knowledge (psychology, neurology, cognitive science, sociology, etc.) could work in close collaboration with experts already working on the topic inside the European institutions as well as key private sector stakeholders. This could take place through a specialised European association that meets on a regular basis.

How

This research programme will have to grow with the development of virtual worlds. It will be mandatory for industrial players, who bring these technologies to market maturity, to work in partnership with it. Industrial players could also have their own research programmes that are monitored and evaluated by the European Union. Access to the results must be available to the public and transparent.

Justification

Support this recommendation. We do not need to reproduce the mistakes of the past, we need research to understand the impact of virtual worlds on our health.

Recommendation 14

VIRTUAL WORLDS, LET'S BUILD A HEALTHY
FUTURE TOGETHER RESPONSIBLY!



Recommendation 15

Indicators for healthy, inclusive, transparent, and sustainable virtual worlds

What

We recommend putting in place indicators that can measure the social, environmental, mental, and physical health impacts of the use of virtual worlds.

Who

Experts from different fields would use the results of research programmes to elaborate indicators. A board of experts would elaborate recommendations based on these indicators, responding to European standards for professional and individual use, in order to accompany the European Institutions in translating it into policy.

European Union institutions could use those indicators to elaborate policy directives for Member States to implement regulations at the national level for professional and individual use. These policies could be inspired by what has been done in other policy areas (e.g., tobacco, alcohol, and drugs warnings).

Key stakeholders in the industry (e.g., companies) must respect these European standards.

How

These indicators will need to evolve over time with research and by ensuring transparent dissemination and open access to information. These indicators could help in introducing certification standards for companies to comply with, when providing the services (paying particular attention to health). This is relevant for companies which provide tools for the metaverse and for all other companies to ensure their workers benefit from a safe and professional use of the virtual worlds.

Justification

Support this recommendation because literacy and awareness might save us from the potential threats caused by the expansion of virtual worlds.

Recommendation 15

INDICATORS FOR HEALTHY, INCLUSIVE, TRANSPARENT AND SUSTAINABLE VIRTUAL WORLDS



Topic: Information sharing & awareness

Recommendation 16

Virtual worlds act on education and awareness raising - 'You, me and the metaverse'

What

We recommend a guideline on how to be a digital citizen - good rules for how to behave in virtual worlds.

Who

The EU should make guidelines by appointing a panel of experts, which includes experts from different fields, researchers/universities, companies, national governments, and the users of the metaverse. The role of each actor is the following:

- EU: create a panel of experts to develop guidelines and make a public debate about this, include citizens in the debate
- National governments: need to make sure that the guidelines are used in education and communicate about them in general.
- Researchers/universities: follow the development and make recommendations.
- Companies: follow the guidelines to ensure the safety of users.
- Users of the metaverse: citizens are responsible to be active in the debate and development of guidelines and policies.

How

The guidelines should, among others (to be developed), contain:

- What is the metaverse, and how it could be used
- How not to share data you don't want (cookies, etc)
- Avoid misinformation
- The duties you have to give correct information
- How not to harm the environment
- The rights that you have and how can defend them (what are the possibilities)
- The possible health risks

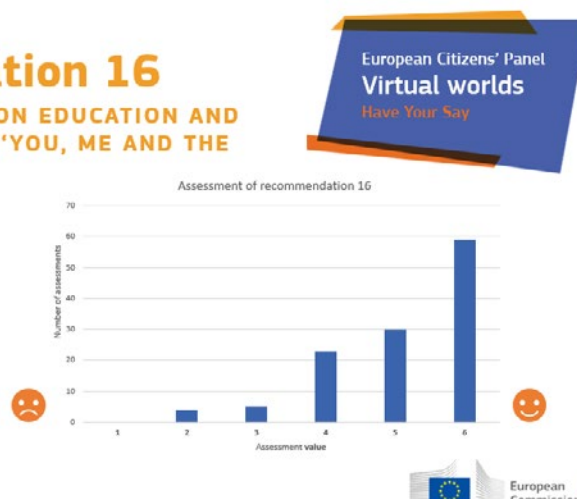
The guidelines should be disseminated in various ways: through formal education and awareness- raising campaigns.

Justification

Citizens did not provide a justification.

Recommendation 16

VIRTUAL WORLDS ACT ON EDUCATION AND AWARENESS RAISING - 'YOU, ME AND THE METAVERSE'



Recommendation 17

My data is not your data act - 'The right data in the right hands'

What

We recommend "terms and conditions" for companies on how they guarantee the security of personal data and transparency for citizens.

Who

The EU should do a framework on virtual worlds and data protection and transparency.

- EU: should do a legal act specifically on virtual worlds (in the case it is not already covered)
- National governments: should implement the directive and enhance companies' compliance
- Researchers/universities: legal, economic, ethics and human rights experts should be included to give insights and inputs
- Companies: should follow and comply with the current and new frameworks
- Users of the metaverse: citizens should be active in the debate and development of policies.

How

We need an EU legal act about what kind of personal data the companies can collect and use, and how they should inform about what they do with it.

The companies should inform people about this in a short, clear, and understandable (accessible for everyone) way. They should give information on:

- What data is being collected
- How and if it will be deleted
- How long will they keep it
- How and where the data should be stored
- Flexibility about what data you want to share to use the online platforms.

Justification

Citizens did not provide a justification.

Recommendation 17

MY DATA IS NOT YOUR DATA ACT - 'THE RIGHT DATA IN THE RIGHT HANDS'



European Citizens' Panel
Virtual worlds
Have Your Say

Topic: Digital identity in virtual worlds

Recommendation 18

Digital infrastructure development

What

We recommend ensuring equal access to digital technologies, through the implementation of a far-reaching infrastructural development plan. This plan should focus on affordable, financeable accessible development for everyone.

Who

We hope that in the future, all citizens of the EU will have access to free and good internet access provided by private companies. If this is not the case, for example in rural areas where it is not profitable for private companies, then the EU should take the initiative and provide an internet connection.

How

The EU needs to invest in the education of engineers, so we have the right and necessary labour force to implement and set up internet access for all. The recommendation needs to be fully implemented by 2031, but we also need to have certain subgoals on the way. For example, a goal for when to have internet in all the big cities, in all education institutions etc.

Justification

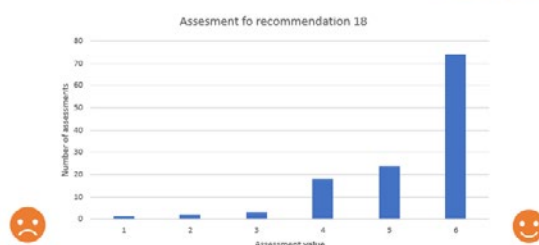
To create a European virtual world, the starting point is to ensure equal connection for every European citizen. Therefore, a digital infrastructure development plan is necessary at the EU level.

The main challenge is the sharing of responsibility between EU and Member States. Should it be the EU or the Member States to finance and implement this plan?

Moreover, a strong timeline is necessary to turn wishes into reality, so the group decided to set 2031 as a deadline.

Recommendation 18

DIGITAL INFRASTRUCTURE DEVELOPMENT



Recommendation 19

EU needs to develop regulations on digital identity and on when to allow and secure citizens' right to be anonymous

What

There should be a regulation at the EU-level on when you need to show your identity and when you can be anonymous in the digital world. When we talk about entertainment, leisure, or research, it should be possible to be anonymous. However, when it is crucial to know the identity of someone, it should be mandatory to authenticate yourself with a digital identification. For example, when transferring money, when referring to government services or when buying specific goods where a license or an age limit is requested.

Who

The EU has to implement a regulation compliant with global trends, and service providers must respect it.

The EU should work at the international and diplomatic level, to share awareness with other regional organisations. Member States will have to oversee this evolution and report on potential infractions.

How

It is hard to visualise how this important recommendation can be implemented. Therefore, the EU needs to start by supporting research on this topic. Moreover, the citizens need education on what anonymity means, and how our data is being used. Furthermore, it is important that there are some consequences/sanctions if service providers break the regulations.

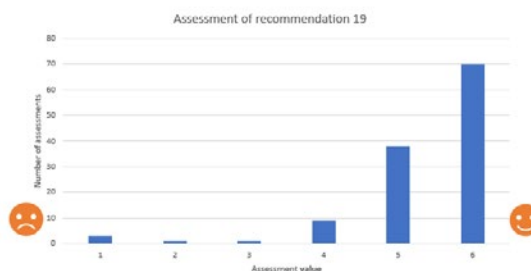
Justification

The question of anonymity is crucial to the group. However, anonymity is a very diverse issue, which needs to be translated to a variety of situations. Therefore, a degree of flexibility and adaptability is necessary, in order to preserve freedom, friendliness, and transparency.

Recommendation 19

EU NEEDS TO DEVELOP REGULATIONS ON DIGITAL IDENTITY AND ON WHEN TO ALLOW AND SECURE CITIZENS' RIGHT TO BE ANONYMOUS

European Citizens' Panel
Virtual worlds
Have Your Say



Topic: Connectivity & access for virtual worlds

Recommendation 20

Accessibility for all - no one left behind

What

We recommend that all EU citizens should be able, technically, and procedurally, to access and make use of the possibilities of the metaverse, in accordance with their needs, wishes, and interests.

Who

We want the metaverse to be shaped by informed collaboration between public authorities, private entities, and civil society. The EU should take responsibility for guaranteeing equal opportunities for all EU citizens in the metaverse.

How

We need institutional and legal frameworks that ensure the safe use and protection of civil rights. Accessibility is a shared responsibility of public authorities, private entities, and society at large. The three actors should continually explore together the implications of the metaverse to maintain appropriate frameworks.

The EU should work towards ensuring that the metaverse evolves in accordance with the needs of all citizens (including marginalised groups, minorities, etc.).

We recommend that every EU citizen is given access to the appropriate skills and equipment to easily use the metaverse.

Everyone should have the freedom to decide whether to take part (or not) in citizens' platforms in the metaverse, without the risk of exclusion.

Justification

At the core of this recommendation are equity and equality, fundamental values of democratic societies.

This recommendation takes into account several aspects related to accessibility.

Recommendation 20

ACCESSIBILITY FOR ALL - NO ONE LEFT BEHIND

Average
4,5



Recommendation 21

Legal frameworks for transparency and protection of everyone in the metaverse - prioritising vulnerable groups

What

We recommend clear legal frameworks informed by ongoing research into the safe and positive use of the metaverse.

Who

The EU's legal experts and EU technocrats.

How

The frameworks should guarantee the protection of vulnerable groups (children, older people, the disenfranchised) against manipulation and threats. These frameworks should be based on the need for legal provisions, identified by the working groups.

The frameworks should include provisions for ongoing research about the positive and negative effects of the metaverse, including but not limited to:

- Fear of addiction
- Impact on health
- Fear of some groups/regions being left out or left behind
- Impact on labour markets

Transparency and protection should be reflected in the investments that are supported by the EU.

Justification

The protection of citizens is immensely important – keeping safe:

- ourselves,
- our identities,

those who are vulnerable Safety must be our priority.

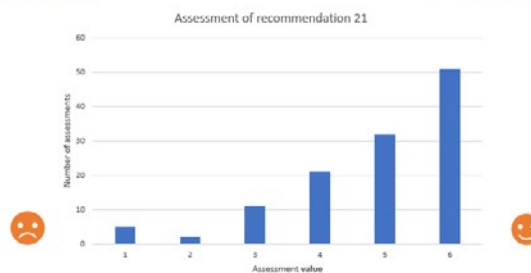
It is essential that all people's rights are protected. Especially when it comes to vulnerable people. Good rules minimise the risk of criminal and harmful activity in the metaverse.

The EU's regulation has the potential to set a global example/standard.

Recommendation 21

LEGAL FRAMEWORKS FOR TRANSPARENCY AND PROTECTION OF EVERYONE IN THE METAVERSE - PRIORITISING VULNERABLE GROUPS

European Citizens' Panel
Virtual worlds
Have Your Say



Topic: International cooperation & standards

Recommendation 22

EU labels/certificates on virtual worlds' applications

What

We recommend to the EU to introduce easily understandable and accessible labels/certifications for virtual worlds' applications, to ensure that they are secure and reliable.

Who

The EU, in cooperation with stakeholders such as researchers, experts, businesses/companies and local governments.

How

Introduce standardised labels/certifications for virtual worlds' applications across the European Union to protect users. Through the labels/certifications, people should be informed about the safety, security, and reliability of the application.

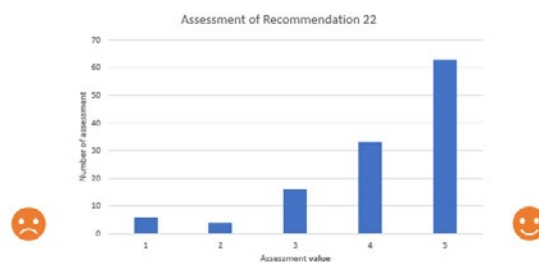
The label/certification should be easily understandable (e.g., smileys, letters: A-B-C-D). It is important that every user is informed about the label/certification of an application before they use it. The label/certification should serve as guidance for people, based on which people should be free to choose whether they decide to use the application or not. We should make the labels/certifications sector specific if necessary.

Justification

Citizens did not provide a justification.

Recommendation 22

EU LABELS/CERTIFICATES ON VIRTUAL WORLD APPLICATIONS



Recommendation 23

EU as a strong player/pioneer in the virtual worlds

What

We recommend the EU Member States to be united to become a strong common player/pioneer in controlling, overseeing, and regulating virtual worlds, in order to maintain our democratic values and disseminate them to other countries.

Who

European Commission in cooperation with stakeholders.

How

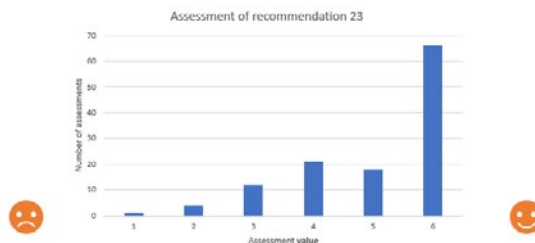
The EU should become a pioneer by setting the framework for virtual worlds based on our democratic values. By creating a framework that creates prosperity in the EU, it will serve as a model for other regions and countries. The EU should create incentives to support and stimulate sustainability and growth. The EU should be working together in unity to become an example for other countries and regions. Additionally, the EU should remove obstacles to participation in virtual worlds, such as creating sufficient and reliable infrastructure.

Justification

Citizens did not provide a justification.

Recommendation 23

EU AS A STRONG PLAYER/PIONEER IN THE VIRTUAL WORLDS



3. ASSESSMENT OF RECOMMENDATIONS

Citizens assessed all recommendations on a scale of 1 – 6. The value 1 meaning “I don’t agree/I do not support” the recommendation and 6 meaning “I highly agree/I strongly support”

nr.	RECOMMENDATION	Average
1	Labour markets in the European virtual worlds	5,0
2	Creation of harmonised training for work in the virtual worlds	5,0
3	Regular review of existing relevant EU-guidelines to virtual worlds	4,8
4	Financial support for the development of virtual worlds	4,8
5	Participatory forums for joint developments, regulations, and standards	4,8
6	Company and user certification for the virtual worlds	4,8
7	User-friendly ‘hallway’, or ‘gate’ in the metaverse to opt-in to selected data usage	5,0
8	A police to act and protect in the virtual worlds	4,8
9	Artificial Intelligence as a support for the police in virtual worlds	4,1
10	Teacher training on virtual worlds and digital tools	5,5
11	Free access to information about digital tools and to virtual worlds for all EU citizens	5,3
12	For circular virtual worlds: rights and responsibility of citizens and industries	4,8
13	Green virtual worlds with renewable and transparent energy	4,8
14	Virtual worlds, let’s build a healthy future together responsibly!	5,3
15	Indicators for healthy, inclusive, transparent, and sustainable virtual worlds	5,0
16	Virtual worlds act on education and awareness raising - ‘You, me and the metaverse’	5,1
17	My data is not your data act - ‘The right data in the right hands’	5,3
18	Digital infrastructure development	5,3
19	EU needs to develop regulations on digital identity and on when to allow and secure citizens’ right to be anonymous	5,4
20	Accessibility for all - no one left behind	4,9
21	Legal frameworks for transparency and protection of everyone in the metaverse - prioritising vulnerable groups	4,9
22	EU labels/certificates on virtual worlds’ applications	5,2
23	EU as a strong player/pioneer in the virtual worlds	5,0

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