CO-CHANGE
CO-create CHANGE in Research Funding and Performing

D2.4 Short report on Forum 3

Version 1.8

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Preface

The Co-Change platform (Work Package 2) organises a series of four interconnected Forums to support mutual learning and exchange between the Co-Change Labs, their ecosystems and Advisory and Sounding Boards.

This Deliverable “Short Report on Forum 3” (D2.4) documents the design and the main outcomes of Forum 3 and thus serves as a basis for guiding vital next development steps by the Labs and the project in general. The Report first introduces the objectives, design principles, and resulting agenda (chapter 1) of the Forum. It then describes the outcomes of the main thematic sessions (chapters 2-4) with inputs and highlights of subsequent discussions. It concludes with take-ways and a look ahead on the next steps in the Co-Change project (chapter 5).

1- Introduction

The Co-Change project is about facilitating institutional change and raising awareness regarding RRI in research funding and performing organisations. At the core of the Co-Change project are small organisational innovation spaces, the Co-Change Labs. In these Labs various RRI-related activities take place, such as awareness raising, trainings, workshops, discussions, reviews of practices and institutional changes. Next to the short monthly Lab coordination meetings, the Forums are the most important element in supporting their work. The Forums serve to exchange experience, infuse knowledge from the Advisory and Sounding Boards and the wider ecosystem, allow for common discussions and exchange of practices regarding the core aims of the project. Forum 3 took place on 8 and 9 November 2021 and was co-hosted by AIT from Austria and Tecnalia from Spain.

The participants of this Co-Change Forum were three research and technology organisations (AIT, TEC, VTT), two universities (Novi Sad, TU Delft), two research funding organisations (WWTF, Regional Fund of Tampere), an SME for the communication (ESSRG), as well as two firms (ARCHA, QiArrow) and a standardisation organization (NEN) as associated partners. Further participants were network partners from sister projects (SocKETS) and the winners of the Co-Change Call for Innovative RRI ideas as well as members of the Co-Change Advisory and Sounding boards.

Objectives

The main objectives of Forum 3 for Co-Change Labs, associated partners, Board members and invited projects were

- To **experiment** with new ideas and practices & "Lab-to-Lab" Learning on societal challenges of *Diversity & Inclusion in AI & Digital Technologies* and *Sustainability & Circular Economy* as guiding themes.

- To share **inspiration** and **experiences** (challenges, opportunities and threats) for innovative practices with each other and invited experts to get inspiration (new input, support) for their aspired institutional changes and to work on issues of shared concern, **best practices**, and lessons learned.
- To have a space for **reflection and self-organisation** as a basis for generating transformative capacity.
- **To refine and test** your ideas on new products, services and methods in a group.

Design

In the spirit of co-designing, the Forum 3 team consulted with the Co-Change Lab coordinators and the project management group twice on the objectives and contents of Forum 3 to align the programme with their needs and expectations.

Due to the COVID-19 pandemic the safest way to hold the Forum 3 was online.

Connecting and co-creating in a digital environment remains a challenge. Yet with the experience of previous online activity, basic design ideas and principles could be applied to this Forum. The collective experience and creativity of the entire project team was mobilized to provide the best available experience which allowed the Forum 3 team to prepare an attractive programme. In several iterations, a design based on four virtual gatherings over the course of two days was developed with the following themes, structure and elements:

Themes

Forum 3 was all about learning from new ideas and practices.

The first day introduced participants to the topic of **Diversity and Inclusion through AI & Digital Technologies**. Inputs from experts and practitioners set the stage for participants to reflect and exchange on issues pertaining to AI and societal and ethical dimensions thereof. At the end of day one, participants could engage in what Labs were struggling with.

The second day of Forum 3 focused on the topic of **Sustainability and Circular Economy** and showed good practices to inspire the participants, followed by a conception phase with analysing challenges, opportunities, and threats. Afterwards, the participants were invited to engage in prototyping new products, services, and methods.

Structure

The Forum was structured around two full-day programmes of overall four sessions spanning the course of two days for facilitating the attention of participants in a virtual environment. The days started at 9 a.m. and lasted until 3 p.m. with short breaks and a substantial lunch break. Forum 3 was jointly designed and implemented by teams from AIT and Tecnalia.

A total of 42 participants composed of Co-Change Lab teams, invited sister projects, associated partners and Co-Change Idea Competition winners shared experiences and inspirations for their aspired institutional change towards RRI.

Furthermore, in order to give a special role to **young researchers**, it was planned to include a so-called Youth Forum as a parallel session within Forum 3 as a novel element. Some of the young researchers at Co-Change had the idea of inviting young researchers from different backgrounds to develop citizen engagement measures for Co-Change. After this parallel session, we would have presented the results to the plenary in Forum 3 to provide the group with an additional perspective. The invitation for this Youth Forum was sent to several young colleagues of the Co-Change partner organisations, to sister projects and multiplier organisations. Although around 800 people were reached through targeted emails, social media, and website posts, only 5 people signed up to participate in the Youth Forum. Two people cancelled at short notice, so the session had to be cancelled. Thinking about the reasons for this, we believe that next time we should create more interest and commitment right at the beginning. Moreover, it seems difficult to participate in such workshops when the participants come from outside the project, as the meetings have to be integrated into the regular work schedule. Therefore, it is even more important to spark a lot of interest from the beginning, so that the image of a meeting that is "nice to have/attend" can be prevented. The general question remains as to how we can make such formats more attractive to external parties.

Elements

To provide a rich learning experience, the programme of Forum 3 had **various interactive elements** such as small group dialogues and plenary discussions and - for the first time in a Co-Change Forum – quizzes and case clinics. They were all designed to support the Co-Change Labs, associated partners, and guests and will be briefly introduced below.

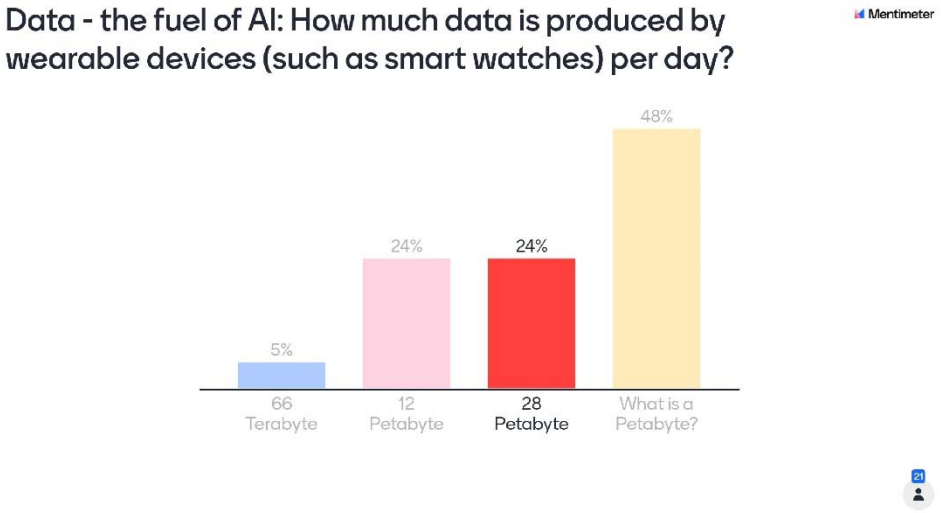
Following its objectives, the Forum gave space for reflection and self-organisation in break-out sessions where participants were invited to self-select the topic with the most meaning and relevance for them. **Reflection sessions** followed after the introductory panel interviews on both days. Participants could choose between three thematic breakout rooms: “Diversity and AI”, “Politics and AI” or “Digital Humanism” on the first day and between “Sustainable Energy Transition/Circular Economy in Planning and Regeneration”, “Responsible Crop Production and Food Supply” and “Citizen Engagement and Public-Private Partnerships” on the second day. The panelists joined the break-out rooms according to their background. Personal reflection and exchange of views guided the direction of the dialogue in the groups.

As an opportunity for informal interaction and diverse (social) learnings, we also prepared an **icebreaker** and two topical **quizzes**. The goal of both activities was to loosen up the stiff setting of online sessions and energise the group by providing small group (social) interaction:

- The **icebreaker** activity was conducted in very small groups of three persons who were randomly assigned to meet people whom they had not met before in order to socialise. On both days, each group exchanged in line with the theme of the day: “How do you imagine the role of AI and digital technologies in your organization in 20 years?” on Day 1 and “What do you care about in this world? What do you do for the things you care about?” on Day 2.

- The **quizzes** were conducted on each of the main themes and using the digital tool Mentimeter (menti.com). Again, the aim was to raise participants' awareness of and curiosity about the Forum themes and encourage them to participate by providing a stimulating atmosphere. See below for an example and the annex for details.

These activities gripped the attention of the participants in a light and playful manner, whilst opening the day to the topics at hand.



Lab Clinics on both days provided participants a hands-on problem-solving experience which taps the collective knowledge of a group by bringing in diverse perspectives and thus solution impulses (based on the Case Clinic format developed by the *Presencing Institute*). This agile, transformation-oriented peer-to-peer advisory format requires no previous experience or preparation on part of the participants and can be self-moderated (see Lab Clinic method box below).

The Lab Clinic method

Step 1: Case giver volunteers in each group (2-3 min).

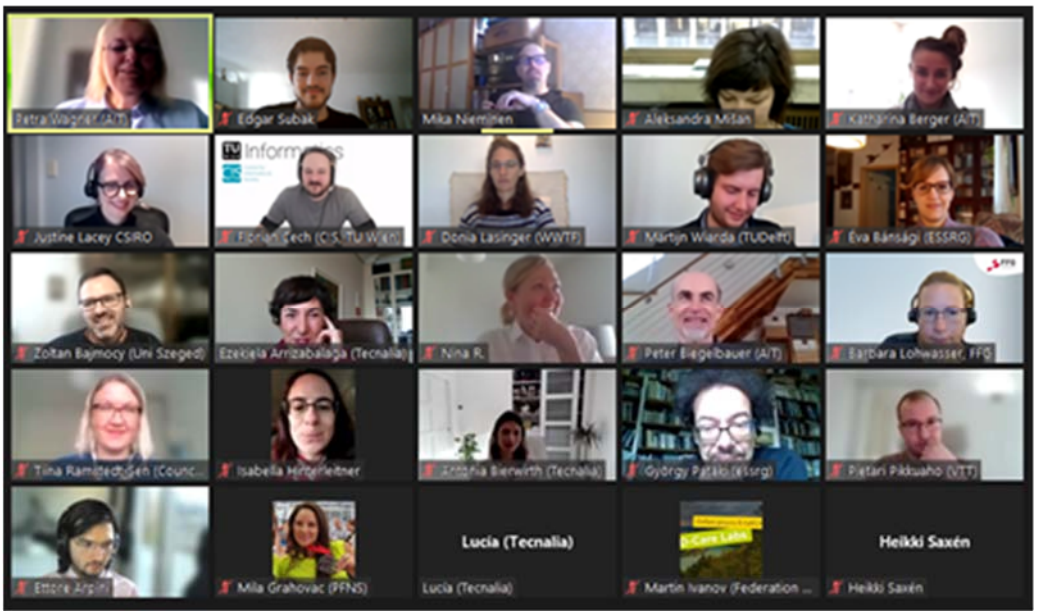
Step 2: Statement by case giver – definition of the problem and the situation (5 min).

Step 3: Coaches ask questions to the case giver to make sure that they have understood the situation (5 min).

Step 4: Coaches share their impressions, and a group discussion follows. Case giver remains silent (15 min).

Step 5: Case giver reflects back on what he/she heard. He/she summarizes the outcomes in three statements (15 min).

Adapted from: Presencing-institute.com.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Heikki Saxén

Agenda

The overall design of Forum 3 is reflected in this detailed agenda:

	Monday - 08 November 2021	
08:50	*Telco opens*	
09:00	**Welcome and Introduction**	Plenary
09:35	**Inclusion and Diversity vs. AI & Digital Technologies** Quiz by Katharina Berger | 15 min Expert Panel by Peter Biegelbauer | 60 min Break | 20 min	Plenary
11:15	**Reflections** Small Group Sessions by Petra Wagner | 45 min Synthesis | 30 min	Break-out
12:30	**Lunch Break**	
13:30	**Introduction**	Plenary
13:35	**Case Clinics** Introduction| 5 min Small group discussions | 50 min Results | 20 min	Plenary/Break-out
14:50	**Reflection of Day 1 & Outlook on Day 2**	Plenary
15:00	**End of Day 1**	Plenary
	Tuesday - 09 November 2021	
09:00	**Welcome**	Plenary
09:05	**Icebreaker**	Break-out
09:20	**Sustainability and Circular Economy** Quiz | 10 min Expert Panel | 45 min Break | 15 min	Plenary
11:00	**Reflections** Small Group Sessions | 25 min Synthesis | 35 min	Break-out/Plenary
12:00	**Lunch Break**	
13:30	**Introduction and Q**	Plenary
13:45	**Case Clinics** Introduction| 5 min Small group discussions | 10 min Results | 30 min	Plenary/Break-out
14:30	**Closing of Forum 3 and Outlook**	Plenary
15:00	**End of Forum 3**	Plenary

2-Diversity and Inclusion through AI & Digital Technologies: Expert Inspirations and Participant Reflections

Diversity, gender, AI, and digital humanism are topics that have been addressed within the Labs and are connected to the six RRI keys. This panel interview gave participants inspiration and input on issues, challenges, and tips on how our interviewees do what they do and how they do it.

In the **panel interview** the winners of the Co-Change Idea Competition, that had taken place in the spring of 2021, and Co-Change partner WWTF inspired the Forum 3 in their role as experts with their innovative projects and initiatives. They then discussed their current challenges and limitations, focusing on the questions: *how can we improve gender & diversity through AI? What are the current challenges and limitations* and *how can we reduce bias and improve diversity in recruitment processes through AI.*

In the following **reflection session** participants shared ideas, experiences, and knowledge on the panel topics in small groups - guided by these questions: What have you observed during the interviews? What does it mean for you personally and/or for your Lab or initiative.

This chapter summarises the outcomes of both the panel interviews as well as those of the reflection groups on the three themes: (1) Diversity and AI, (2) Politics and AI, and (3) Digital Humanism.

Focussing on Diversity/Gender in AI

Women in AI (Isabella Hinterleitner)
• A global network of women engaging in the fields of AI in different ways • Pushing forward questions of diversity and gender in the AI community • Believes that diversity in AI has been progressing
De-Bias (Florian Cech)
"Digitally Eliminating Bias In Applicant Selection" • based at the Center for Technology and Society at the Technical University of Vienna (TU Wien) • The project came to life when the career center of the TU Wien contacted Florian Cech and explained the issue: Lots of students with foreign sounding names or who do not look white, were doing badly in the recruiting processes, even though they had been good at university. They pleaded for a technical fix.

- There is a wealth of research on bias. AI was not necessarily the solution to this problem.
- Way to go: Human-centered solution and structured interview process. Two stages: First there is an anonymized chat, where recruiter and student get to know each other without sharing names or showing faces. If the recruiter feels that the person could be right, the second step is to see each other.

The **Reflection Group** on Diversity & AI discussed the difficulties of funding practices for researchers, especially for those who work interdisciplinarily and the dominant solution-orientation. The latter makes RRI uptake more difficult as the goal is more important than the means. Members of the group agreed that sometimes there is no ideal solution to a problem, but making satisfying and sufficient solutions to problems, "satisficing", is just as good. In the domain of research funding, the dominant approach favours non-interdisciplinary research. Interdisciplinary research proposals have a hard time getting funding grants from funding organisations. Streamlining and making the application process easier for researchers was raised as a more general issue.

"To get young researchers to think on broader scales, education needs to become more interdisciplinary."

The problem with interdisciplinary projects themselves often is that technical professionals and social scientists and people from the humanities work rather separately. The collaboration in the project work can be closer and more interconnected.

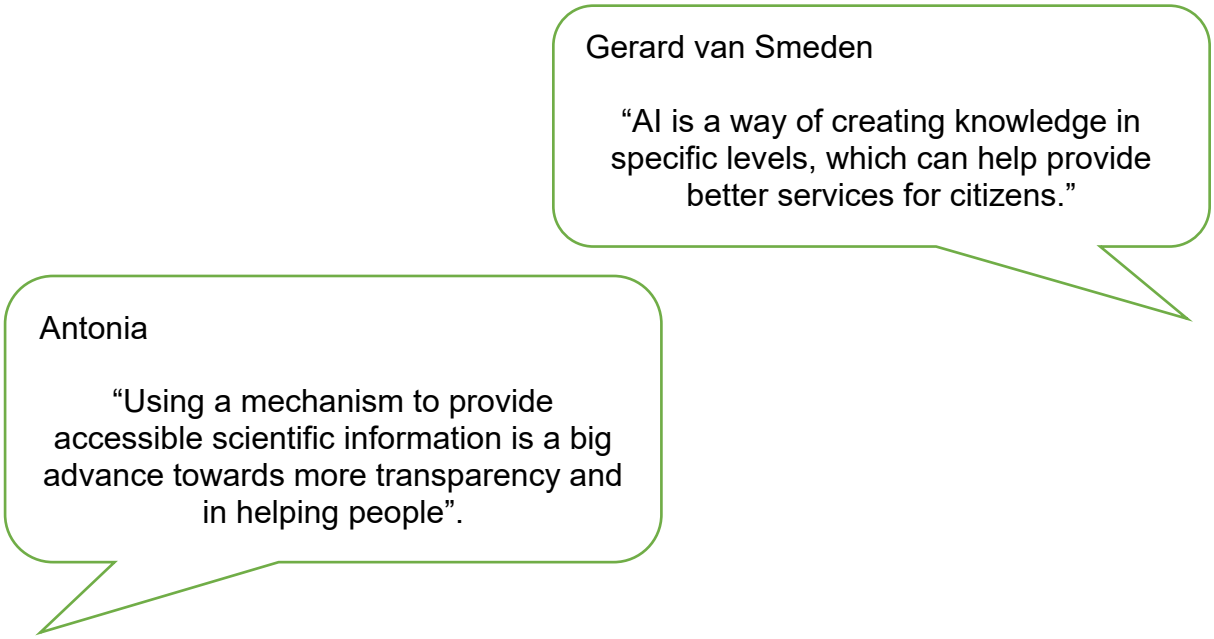
Focussing on Politics/Public Services and AI

Etairos (Pietari Pikkuaho)

- Public service and its relationship to AI
- Collaboration between universities, RTO's, firms, and ministries
- Focus on practical processes and an environment to help both public and private organisations to enhance the ethical sustainability in applying AI and digital technologies. Research trajectories of AI, societal impacts, developing action-based ethics to build the future of AI are all topics included in their efforts.
- Gender, diversity, and inclusion is what they are working on, especially issues of diversity (immigration, people of different backgrounds).
- Interdisciplinary group (from technicians to social scientists)

X-cite (Ettore Arpini and Gerard van Smeden)

- Using AI to summarise scientific research papers relevant to the political debates in an easy and understandable language, hence enabling citizens to access and reflect issues discussed by politicians.
- Underlying issue: research papers are not accessible to the general public as they are highly complex. In this case, AI provides inclusivity.



The **Reflection Group** focused on the X-cite project and participants asserted the benefit of such an information providing mechanism for transparency and in helping civil society. The process of such a mechanism (that summarises research papers in an accessible language) would need several instruments and various experts as very different contexts are being tackled, among others the cultural context. An extension of this tool could not only be applied to politicians and political parties, but also to corporations and other organisations. This allows the public to hold corporations and others accountable for the promises they put forward. Organisations can, of course, change their promises, but given the transparency they would need to argue why they are doing so. A monitoring organisation could then evaluate organisations and political parties on a transparency index, concretely on how close they keep their promises. This would strengthen citizen empowerment and citizen engagement.

Focussing on Digital Humanism

WWTF (Donia Lasinger and Benjamin Missbach)

- The original idea of digital humanism in their organisation was to connect the practical application more to the theory and questions behind the practice. Digital humanism is about the bigger picture and thinking about what comes out of technology while also considering human values. Negative developments of AI are unequal access to data, hate speech among other things.
- Vienna Manifesto of Digital Humanism is an example in which scientists from different disciplines come together and tackle issues more comprehensively. Digital humanism is reflected in WWTF's funding where nine projects are given 3.6mio Euro. One project was elaborated by computer scientists and sociologists on how youth can counter hate speech on the internet. Furthermore, engaging children to make them learn how to counter hate speech is another issue.
- Other projects deal with fake news or the identification of bias in algorithms. Another block of projects funded by the WWTF dealt with the intersection of digitalisation and work, concretely on how to use AI in the care of elderly.

The **Reflection Group** discussed how to make language more understandable in the context of research funding. As there were lots of questions rather than solutions, this group considered itself more inspiration-driven rather than solution-providing. The participants asserted that the process of ongoing questions is the best way forward.

Digital humanism is seen as an open-ended endeavor that also needs to be defined by every organisation individually. As digital humanism always is unique within the organisation that applies contents anchored within the concept of digital humanism, the outputs of this discussion remained rather abstract. The need to allow for individuality of digital humanism creation in the specific contexts that organisations move in, was emphasised. Openness is a key principle here.

Main Outcomes

Regarding *improving gender & diversity themes through AI* and *the current challenges and limitations*, challenges were detected in three different areas:

First, interdisciplinarity still needs more awareness and funding to better understand what it really means to work interdisciplinary and how people can get into dialogue. Second, it is very context-dependent, there is no single panacea because the problems usually arise from the context the AI is working in. And third, in terms of defining diversity and gender: What is it? And what does it mean to us? The importance of definitions and the connotations of the terms we are

using is especially important in the field of RRI. Openness is thus viewed as a key principle.

Looking at AI, it is not possible to ‘fix’ bigger problems of the ‘background’, there is no technical fix. There is a clear limitation and solutions to such problems must be seen in a comprehensive perspective. We need to first understand the problem better before finding a solution. Hence, the stigma that AI can “fix” everything needs to be changed.

With respect to *how bias in recruitment processes can be reduced through AI*, it was concluded that responsibility means to take a look at the entire picture before using high-risk technology, and to understand the underlying causes and mechanisms of a problem. As outlined before, solution-oriented thinking hinders RRI-uptake in projects.

3-Sustainability & Circular Economy – Expert Inspirations and Participant Reflection

Similar to the first day, the second day featured panel interviews with a Q&A session followed by a reflection session in smaller working groups. During the panel interviews, six invited experts provided input and inspirations for the day with respect to *what sustainability means for them* and *what the main concerns of sustainability are in their opinion*. *Finally, we asked what the interviewees personally do to address these challenges.*

Panel Interviews

The first three experts were Joram Nauta, Juan de Blas, and the new associated partner SocKETs of Co-Change, Andrea Porcari. After a short break the panel continued with Justine Lacey, Djordje Vojnovic, as well as Francesca Braca from Archa Labs. Subsequently, the persons are briefly introduced and the most important points of their answers to thequestions above are given.

Joram Nauta (TNO)

Joram Nauta (Advisory Board member) works for TNO and manages Sustainable Innovations in the field of built environment & energy transition. His experience lies in creating new networks, communities & innovation centres in public & private partnerships.

What does sustainability mean to you?

- Sustainability is the possibility to continue actions in the long term. It is necessary to adapt to the ecosystem and change for the better.
- Technology helps to get to a certain point but societal acceptance is needed for people to trust and want to apply these new technologies.
- One part of achieving institutionalisation of RRI in organisations is making them a home for talent: Diverse, empowered and intrinsically motivated employees.

What are the main concerns of sustainability in your opinion and what do you do?

- The biggest potential damage climate change can cause lies within human health.
- When thinking about the main concern of sustainability, climate change and its effects are central. There was a nitrogen lockdown in the Netherlands (before COVID-19). Maybe a carbon lockdown will be next, sometime in the future. The whole European Commission is looking into that direction.

Juan de Blas (Founder and CEO of QiArrow)

Juan de Blas is an Industrial Engineer specialized in Energy and Organisation. He is the founder and CEO of QiArrow (Co-Change Associated Partner), a Spanish consultancy working in the area of Green Deal.

What does sustainability mean to you?

Juan de Blas describes sustainability as a complex concept which entails becoming aware of our actions and their impact on the environment, animals and other humans. Some huge concerns worldwide are overpopulation, air pollution, energy consumption, deforestation, inequality, poverty, and plastic pollution in the oceans.

What are the main concerns of sustainability in your opinion and what do you do?

One of the main problems is apathy: Some people do not consider climate change as severe. Many also do not consider humans as another animal in the complex circular processes and in the ecosystem. The capitalist system has been maximising the wealth, but now we have to concentrate on the environment and social issues. The sustainability consultancy QiArrow organises an expert group to try and solve some of these issues.

Andrea Porcari (SocKETS)

Andrea Porcari works at the Italian Association for Industrial Research. He is responsible for collaborations between research, industry, policy and civil society organisations to facilitate public-private partnerships. He leads a Lab in the SocKETs project focusing on circular economy in the building and construction sectors as well as in urban planning and regeneration.

What does sustainability mean to you? What are the main concerns of sustainability in your opinion and what do you do?

Andrea Porcari views sustainability as a broad and risky term. The context in which sustainability is mentioned is important. Within the Italian Association for Industrial Research (AIRI), the triple bottom line, stakeholder engagement on all levels (quadruple helix), foresight studies and technology impact assessments are considered crucial. The innovation ecosystem approach is relevant here, multi-circular approaches can even arise from the cooperation of different innovation ecosystems.

Justine Lacey (Co-Change Advisory Board member)

Dr **Justine Lacey** (Co-Change Advisory Board member) leads a Responsible Innovation Future Science Platform at Australia's National Science Agency. The research programme examines the interface between science, technology innovation and the associated ethical, social and legal consequences of new and disruptive science and technologies.

What does sustainability mean to you?

Justine Lacey describes sustainability as a bridging concept between ecology, economics, and ethics. When thinking about who is considered an expert and which kind of knowledge is considered valuable, the question of how to integrate indigenous knowledge with Western science arises.

What are the main concerns of sustainability in your opinion and what do you do?

One of Australia's biggest concern is how restore the Great Barrier Reef. A more interventionist approach is being pursued now and new technologies are used. What is ethically and socially acceptable? RRI is often very technology centred. In the discussions about AI on Day 1 of this Forum, the topic of human-centred AI was central. In the sustainability discussion people often feel uncomfortable centring the human. She observed that young people are more comfortable wearing their values whereas older researchers were trained to keep their work free from their passion.

Đorđe Vojnović (Co-Change Idea Competion winner)

Đorđe Vojnović (Co-Change Idea Competition winner) is currently doing a PhD and working at the University of Novi Sad, Serbia at the Department of Field and Vegetable Crops. His areas of specialisation are Plant Nutrition, Greenhouse Crop Production & Fertilisation Management.

What does sustainability mean to you?

Djordje Vojnovic calls sustainability the present and the future. For example, sustainable food production means to ensure food security in the presence and in the future. Natural substances should be used in agricultural production as they can be more sustainable.

Francesca Braca (Archa Lab)

Francesca Braca is project research manager at Archa Lab (Co-Change Associated Partner). Laboratory Archa develops, among other things, innovative technologies aimed at producing nanocapsules and nanosystems providing controlled release of bioactive agents for cosmetic and biomedical applications.

What are the main concerns of sustainability in your opinion and what do you do?

Francesca Braca consults companies, that need to decrease their (negative) impact so they can achieve more sustainability by reducing their emissions, reducing their waste, improving their production processes. There is a very big demand in terms of validation of sustainable and eco-friendly products. We also need to make them comparable in the cost, availability, and safety (for example of new food packaging). We need a final assessment of the end of life to prove that the packaging is environmentally friendly. The problem of the final destination of the plastic packaging is huge. We need strong national regulations.

Reflections

The meaning of sustainability for the participants was discussed in small groups. The guiding questions were: How useful were the expert interviews for you? Are there any ideas and practices that you would like to introduce in your organisation?

Space for informal discussions to share inspiration, experience and knowledge and get to know other Co-Change participants regardless of their role or status in the context of the project, was provided in break-out rooms, some containing one or more of the experts from the panel. In the end there were three groups:

- Sustainable energy transition and circular economy in planning and regeneration
- Responsible crop production and food supply
- Citizen engagement and public-private partnerships

After the discussions, summaries from each group were presented to the plenary:

Urban planning and Sustainable Energy Transition

This group merged the topics of Sustainable Energy Transition and Urban planning. The focus of the group was on energy transition and highlighted various dimensions of the energy transition, which needs to be considered. First, the time dimension in the energy transition plays an important role and varies depending on the energy sectors, e.g., the fossil fuel industry. There is the geographic and geopolitical dimension: While the West has gone through an energy development, others like China are still developing their energy infrastructure. The generational divide, as in who should be included in working towards the transition, was debated. Both young

and old should be incorporated – in different ways. The topic of equity was discussed along the question: “Who pays for the transition?”. Citizens will probably pay for the transition, while corporations will not. Awareness within the ecosystem is critical for achieving the energy transition. For urban planning there is often a lack of citizen engagement. Through strong citizen engagement, policy makers will be more likely to act on pressing issues.

There is a potential collaboration between associated partners QiArrow and AIRI with the latter interested in creating a Lab one day.

Responsible crop production and food supply

In this group there was a very detailed discussion on plastic and how this material can be substituted. One option is plant-based plastic made of soy. Overall, there are different forms of plastic. Hence, it is important to get a mix of different kinds of substitutes to replace plastic as soon as possible.

In this group a potential cooperation developed as well. Project partner PNRS/University of Novi Sad has been working on a project about pesticides and for the final product needs packaging for which opportunities were discussed with the associated partner Archa.

Citizen and public/private partnerships

This group discussed how sustainability is often dominated by environmental sustainability. Social sustainability is another important form of sustainability. In terms of practices of citizen engagement, the participants talked about some of the frustrations. Sometimes questions like “Why do we want to have it?” arise. Other times there are clear reasons, why it is introduced into a project, for risk management for example. Another issue discussed, was how people tend to prioritise. Thinking about the priorities and why they were made can be very telling. What takes us to scaffold the next level beyond acceptance, beyond reputation management to become better? Being better is about purpose and values. Responsible innovation wants to push us higher.

In terms of practice, the question on how the movements for environmental issues can be harvested was discussed - as a way of thinking through the kinds of inputs for citizen engagement inside of the participants’ research areas.

4- Lab Clinics

As described in the Introduction chapter, the Lab Clinics Session held on both Forum days allowed participants to solve a particular case in their Lab and/or organisation. After a case-giver explained his or her dilemma, the group discussed possible solutions. This allowed the participants from different backgrounds to empower the case giver. Back in the plenary, the case giver of each break-out room summarised the problem and the possible solutions.

The set-up of the Lab Clinics slightly differed on the two days. Whereas Day 1 focused more on the Labs and their specific cases (cases 1-5), Day 2 tried to take the learnings from the morning to the lab clinics in the afternoon. On Day 2 (cases 6-8), a case needed to be selected spontaneously in light of the (individual) reflections thus far.

Case 1: Communication dilemmas at TU Delft

Problem: The case put forward by TU Delft is that its Lab - the Dutch standardisation organisation NEN – has stopped responding to TUD altogether. Before the communication ended, TU Delft had conducted a survey on how inclusive the employees of NEN consider their employer. It turned out, that they had not considered NEN responsible. When TU Delft showed the results to their contact person, they left the room. Since then, there has not been any response to emails or other attempts to reach out. The problem TU Delft is now facing is how to regain communication.

Possible solutions and discussion: The proposals that the Lab Clinic came up with were first, to change the contact person. This might prove somewhat difficult, as TU Delft had promised to stick to their allocated contact person. Second, the attention of NEN could be regained by proposing new and interesting activities and events that are too interesting to ignore. Third, TU Delft can provide useful presentations, infographics for NEN, which they in turn can use for their own dissemination and promotion activity.

Case 2: Creating change in society at AIT

Problem: AIT is working with the Machine Learning Lab where questions of bias and privacy related to AI are worked on. An issue this Lab is thinking about is how to produce change not only within the organisation, but also the broader society. There is no perfect path, so participants discussed aspects to consider when bringing about change in broader society.

Possible solutions and discussion: The reflection on what AIT can offer to society is important. Then, the question of which parts of society can be engaged related to a potential entry point for the topic of the Lab, AI ethics, should be strategically approached. Public service or education are a good entry point for

society. Furthermore, a concrete approach to entering society is guided by the question: **Why** are you undertaking these specific endeavors? **Who** do you want to talk to? **How** do you address the specific conversation partners?

Case 3: How do you measure impact at PFNS/University of Novi Sad?

Problem: The dilemma for PFNS/University of Novi Sad lies within the events creating societal change. The case described was about a booth in a science fair disseminating gender issues. There were lots of children there, too, because of their interest in the activity of microscoping fungi. The microscoping drew lots of attention, but the topic of gender equality was not so successful. The number of people approaching the stand was good, but the question is whether there is an actual impact. The question PFNS subsequently posed was how to properly measure the impact of an event.

Possible solutions and discussion: Following up on this central question, sub-questions arise, like "What would you need to ask them to find out or engage them?", hence this is also a methodological problem. This method of measuring impact varies according to the number of people encountered. The smaller a group of contact, the more personal the approach is. The larger a group is, the more difficult measurement becomes. Overall, with a clear motif of interest personal approach to people that are already known to the inquirer are preferable.

Case 4: Societal engagement with Tecnalia

Problem: The problem of Tecnalia, a private, independent, non-profit applied research centre, concerns societal engagement and how to make engagement more interesting for citizens. How do you create incentives for citizens to engage when dealing with social sciences? This question led to the sub-question: How do you find the right people, when the issues dealt with become more sophisticated?

"We need to find trust. Do people really want to be engaged?"

Possible solutions and discussion: The Lab Clinic resulted in four possible solutions or guiding questions tackling the issue of citizen engagement. First, it needs to be clarified whether persons want to be engaged at all, or whether the engagement is created artificially. The citizens should have pressing dilemmas on their own and be interested in solving them. Second, trust is essential in creating passionate and engaged participants. Third, this entire process makes a specific methodology necessary. Fourth, a form of control of the citizens is necessary, but also space for frustration on behalf of the citizens is part of the process.

Case 5: How to measure impact at VTT

"We need to assess whether we are going in the right direction."

Case/Problem: Impact assessment is also a pressing issue for the Finnish VTT. The approach VTT chose in the Case Clinic was to draw upon participants' experience with impact assessment in their work.

Possible solutions and discussion: What came out of this inquiry were three distilled factors to consider when dealing with impact assessment. First, goal setting is important. It is about finding the right direction, otherwise assessment becomes difficult. Second, indicators must be chosen. For impact assessment qualitative indicators are purportedly better than quantitative measurements. Especially narrative storytelling is a good way to capture impact as not only actions are important, but connections to stakeholders play a role. Third, there are many different projects heading to the same targets. Synergies could be used, which otherwise stay unexplored.

Case 6: The Gender Equality Plan at the Faculty of Agriculture (UNS)

Problem: Due to the contributions of the local Co-Change Lab, a Gender Equality Plan has been introduced at the faculty of agriculture at the University of Novi Sad. The question posed for the Lab Clinic was, how to make this Gender Equality Plan fulfil its purpose and to become sustainable.

Possible solutions and discussion: The suggestions were to conduct a webinar about the Gender Equality Plan and how it affects people, to make them feel part of the process, and/or an awareness raising training as a participatory workshop with the goal of cultural change within the organisation, to create a neutral safe place to work on the Gender Equality issues that could arise and to have a team working on those issues. Someone or a group could take on the role of an interpreter, where they would work on Gender Equality with the support of higher management. Other participants remarked that education on Gender Equality should start early, already with children and that it is crucial to include and not to frighten men. Here, it was mentioned that a male spokesperson might make it easier to accept the changes. Further, examples of good practices were considered important.

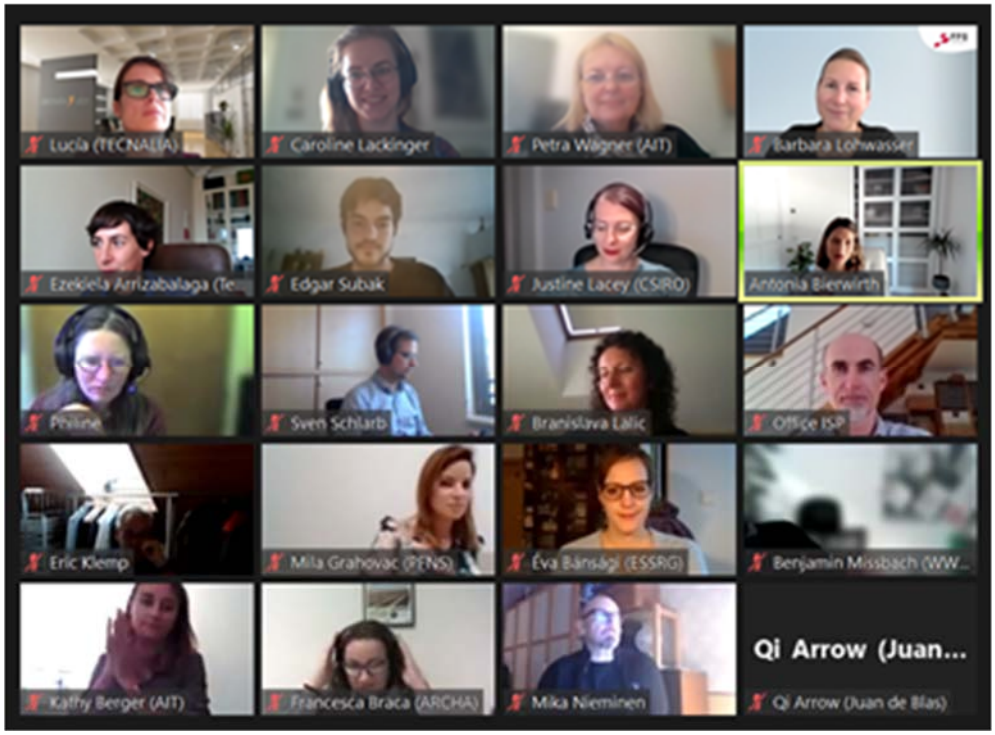
Case 7: Vegetarian options at the AIT canteen

Problem: The canteen at AIT offers mainly meat-based dishes and only very few vegetarian ones. The food quality is not the best. How can this be changed towards sustainability?

Possible solutions and discussion: Several issues were brought up by the participants: To pursue and implement such a change, a lot of individual time has to be invested. Also, the AIT would probably have to invest some resources. How much capacities in time and resources can be found? One participant gave an example of her private experience with a school, where the process to change the meal plan even involved legal consequences. At the same time, the group agreed that the vegetarian options would be more environmentally friendly and potentially even healthier. It was suggested that the CO2 emissions through the canteen food could be calculated for each person per year and then presented to them in comparison with the more sustainable options.

Case 8: Application of AI in developing mitigation and adaptation methods for climate change in agriculture

Problem: In the field of mitigation and adaptation of agriculture, AI is often misused. The group discussed how to address this and how to make improvements in this field. It was suggested to bring specialists from AI, agricultural production and science as well as citizens together to discuss.



5-Takeaways of Forum 3 and Way Ahead

Forum 3 focused on putting novel RRI ideas and pilots into practice, thus on experimentation for implementation. It was a mutual learning experience about specific angles of RRI with diverse experts and of connecting the different perspectives of the Labs through the Lab Clinics. The concept of sustainability, with its ecological, economic, and social dimension, stood out as a common cause for many of the participants. It was complemented by Artificial Intelligence (AI) its strong ethical and diversity dimensions.

In order to gather immediate **feedback** on Forum 3, a short survey with the online tool Mentimeter (www.menti.com) was conducted among all participants at several points during the Forum. All results can be found in the annex.

At the beginning of the Day 1, the participants were asked what they expected to take away from Forum 3. Positive feedback touched upon meeting new contacts, mutual learning and inspiration by experts, good practices and by the Co-Change Labs as well as the goal of implementation. At the end of Day 1, they were asked what they learnedfrom the day and what surprised them the most. In general, participants stressed the high-quality discussions and positive impact of the formats, discussions, and co-learning approaches. They also highlighted the positive impact of a diverse group and topics. Others emphasised content aspects that they took away, such as "goals will define the way," "focus your lab with clients/targets/cooperation partners in mind," and "assessing responsibility/sustainability is challenging."

Some Labs even took away that they will use the inputs and discussion within the smaller groups to realign their focus within their lab.

At the end of Day 2, participants were asked again about their main take away from the day, what *was most interesting* in the Forum, and *what they would like to see changed*. These questions were similar to those in the previous Forums in order to establish comparability. Similar to Day 1, participants highlighted the interactive formats and the resulting "food for thought and action", "new ideas" and the importance of sustainability. It was mentioned several times that the Forum led to fruitful connections and possible further collaborations. When asked what participants would like to change, there were mixed results. Some wanted more focus on the Labs, while others asked for more new participants, more concrete results, and more time for experts. For the last Forum, it might be more interesting to have fewer experts and give them more time for discussion.

The way ahead

Peter Biegelbauer as project coordinator concluded the two activity-filled days of Forum 3 in the spirit that Co-Change does not have to change the world alone. Especially young people, for example as part of Fridays for Future, and young researchers entering a research performing organisation, show lots of ambition to transform society and often have a different perspective on the world. These young people, and also other groups of citizens, should be actively included by RRI. When thinking about engaging society, the focus should lie on what Co-Change has to offer to society at large and citizens in particular. While involving society is crucial, Co-Change also has the help of experts from the Sounding and the Advisory Board. In the coming implementation phase, they will provide a focal point for our Labs to share experiences and develop new ideas and ways forward as part of the Lab Coordination Meetings.

The next steps are further developing ideas on how to implement the ideas in each organisation, to follow up and reflect on these developments and to disseminate the results. Special attention will be paid to public engagement, further institutionalisation of novel RRI practices, and connecting with multiplier organisations. The Co-Change consortium is looking forward to holding Forum 4 in person in 2022.

Annex: Survey Slides

Expectations for Forum 3

What do you expect to take away from Forum 3?

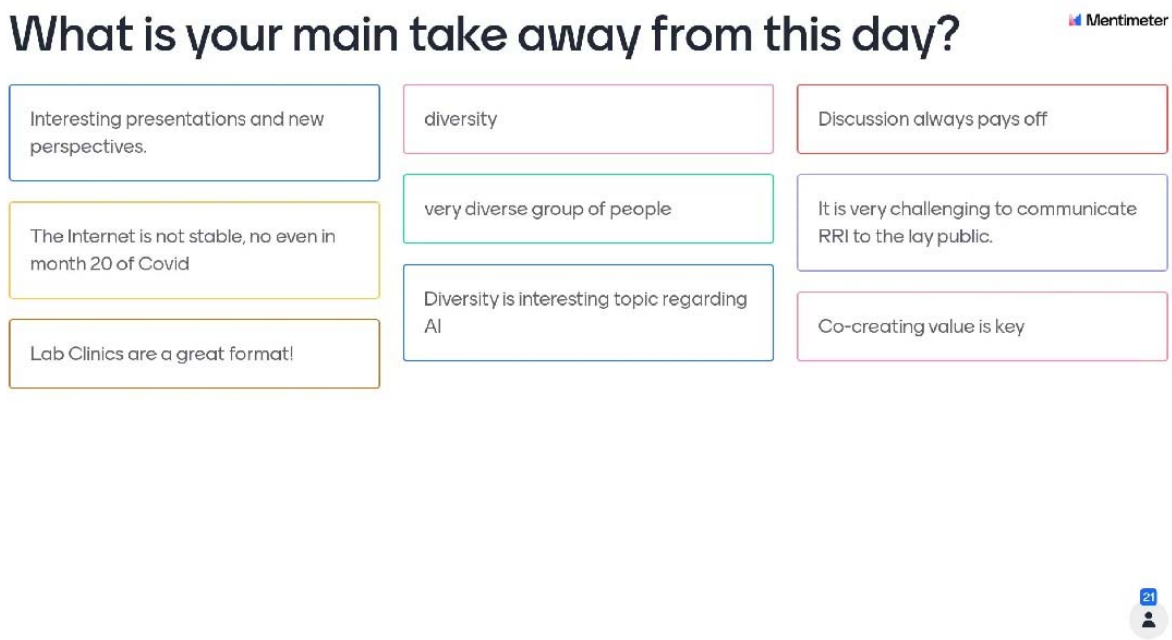
Mentimeter

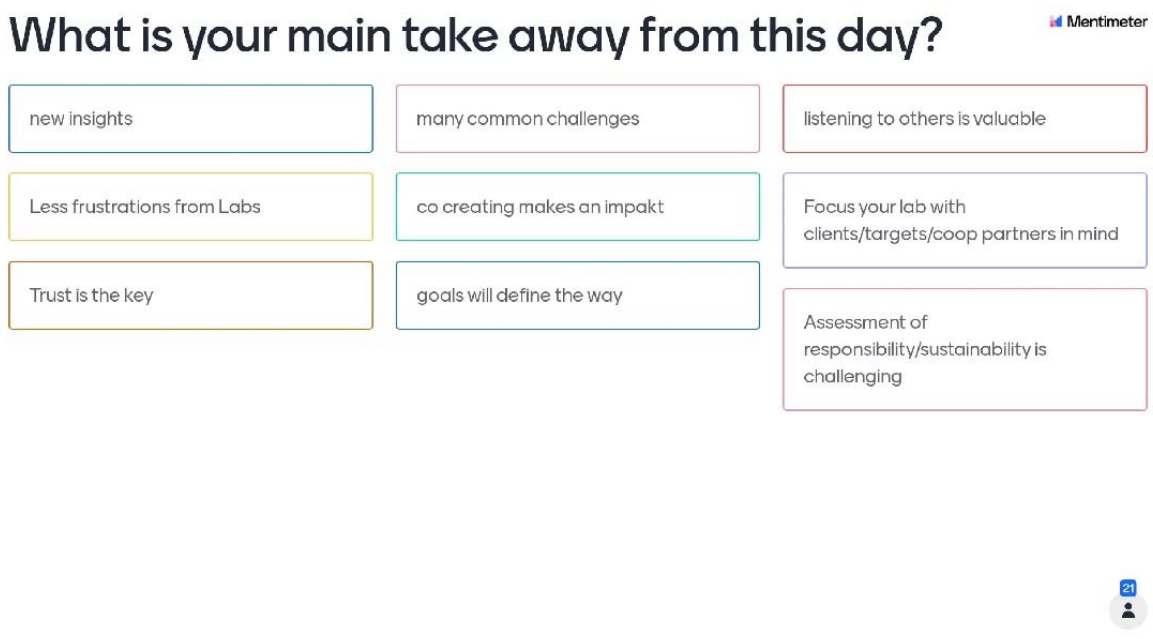
- Learning from other labs, get new ideas what activities can be implemented in the Lab
- Theoretical generalizations
- To get to know the colleagues even better
- How to proceed to reach the goals set, and how to measure the impact of activities
- Exchange ideas on RRI implementation
- Deep dive into lessons learned

- Innovative ideas how to introduce changes to responsible innovation into organisations and society
- To learn from the experiences of the different Labs
- Inspiration and good practices
- New contacts
- Good coalitions
- Inspiration
- Learning from each other

- Inspiration
- To hear the progress of the labs (possible breakthroughs, new insights)
- Interesting new ideas and presentations
- Better understanding of how the co-change partners and labs are practically implementing RRI in different disciplines. Inspiration through participating in “lab clinics” – perhaps to borrow the format of “clinics” for other projects I’m involved
- Motivation
- Learn from experts
- RRI ideas for piloting at my organisation
- To get some inspiration for the Change Lab <3
- Better understanding of CO-Change labs

Feedback – Closing Session Day 1





What is your main take away from this day?

Mentimeter

Many challenges have similar solutions

Complexity

With a little help from your critical friends... refocus your thoughts on the lab

21

What has surprised you the most?

Mentimeter

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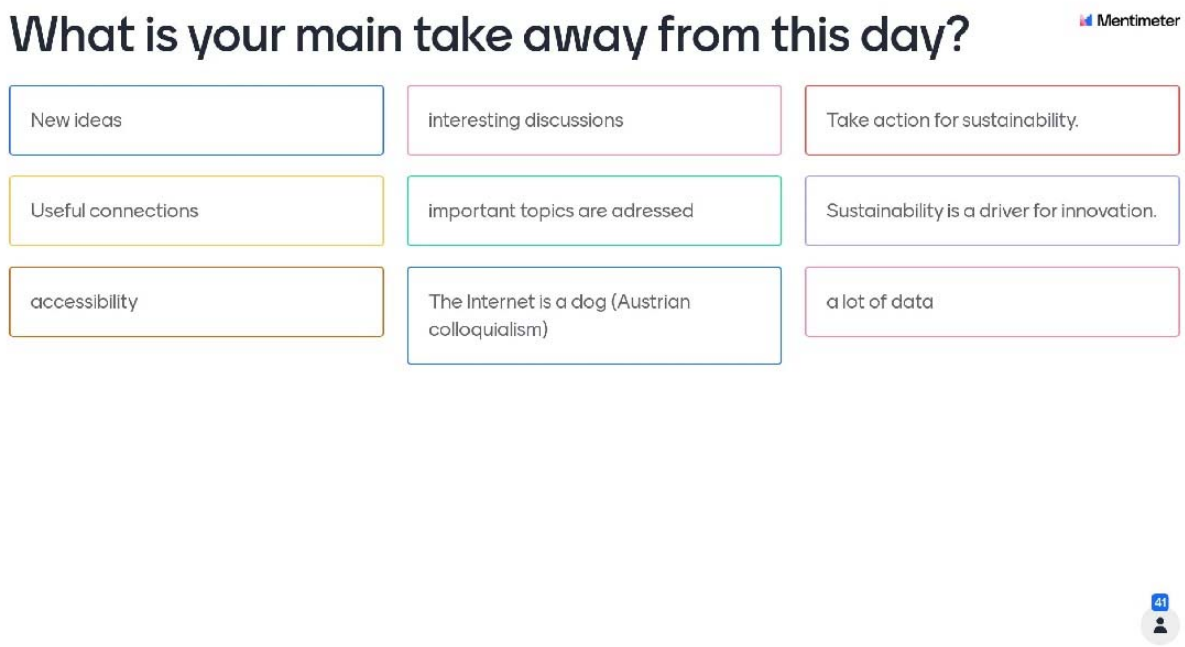
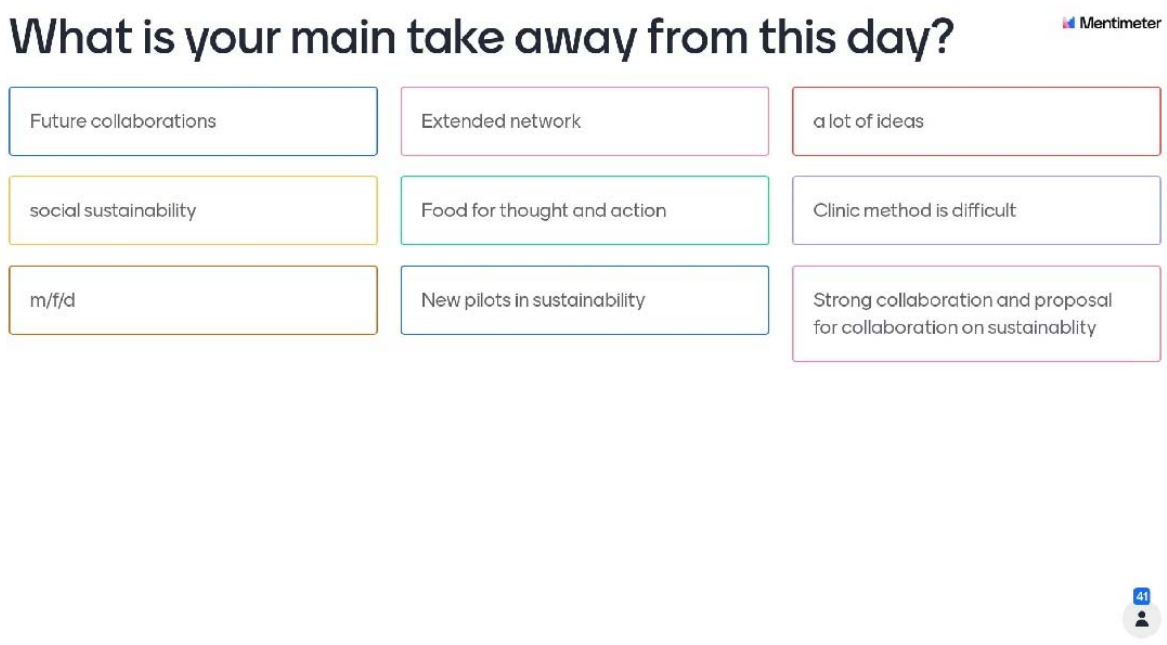
Feedback – Closing Session Day 2





What is your main take away from this day?

Mentimeter

- New contacts
- Input from experts
- reflecions and case clinics
- putting things into practice is crucial but difficult
- Lab/case clinics
- Different viewpoints on sustainability
- Impulses for own work: learning from each other
- people are the driving forces
- Ambiguity tolerance

41

What is your main take away from this day?

Mentimeter

- Exchnge between labs, boards, associated partners
- Ambiguity
- More motivated Labs
- people
- Tolerance
- Engagement
- food for thought
- case clinics
- More breaks

41

What is your main take away from this day?

Mentimeter

moree time for free discussions

shorther sessions

more breaks

More focus on Labs

session length max 3 hrs

41

What was most interesting for you in this Forum? (max. 3 entries)

Mentimeter

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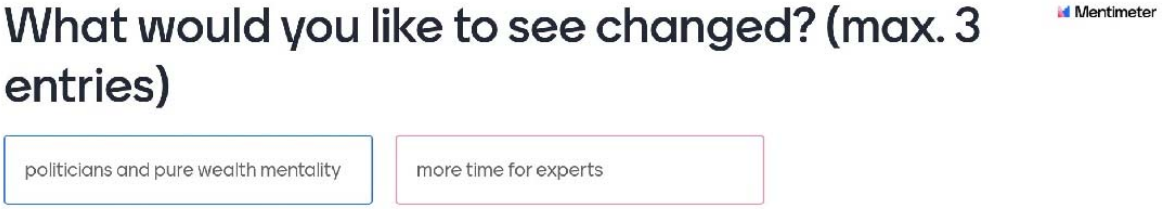
What would you like to see changed? (max. 3 entries)

11

What would you like to see changed? (max. 3 entries)



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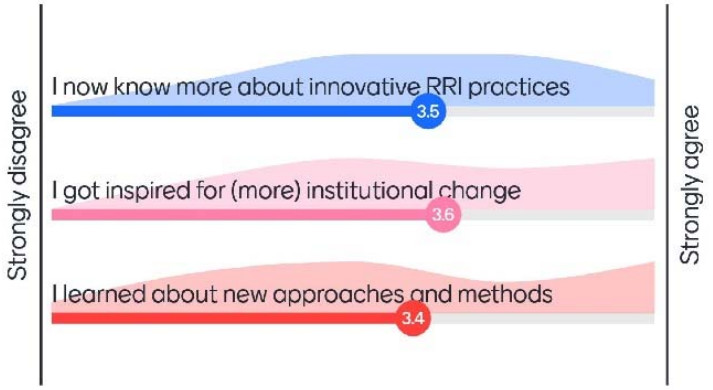
How strongly do you agree with those statements:

Mentimeter



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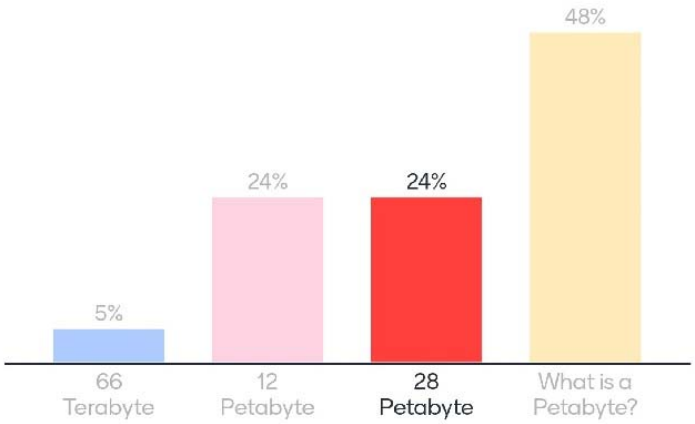
Quiz Day 1 – AI, data and gender

Data - the fuel of AI: How much data is produced by wearable devices (such as smart watches) per day?

Mentimeter



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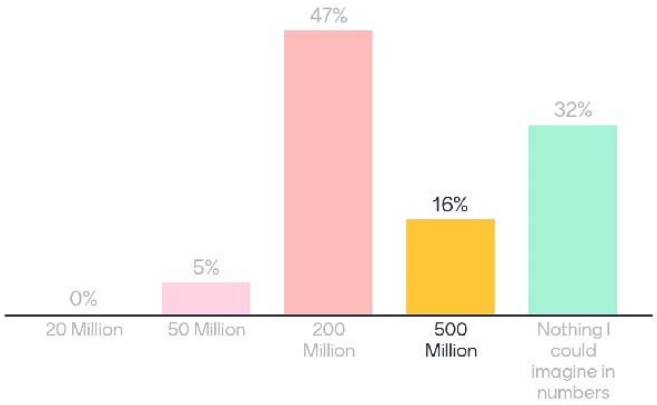
How many tweets do you think are tweeted every day?

Mentimeter



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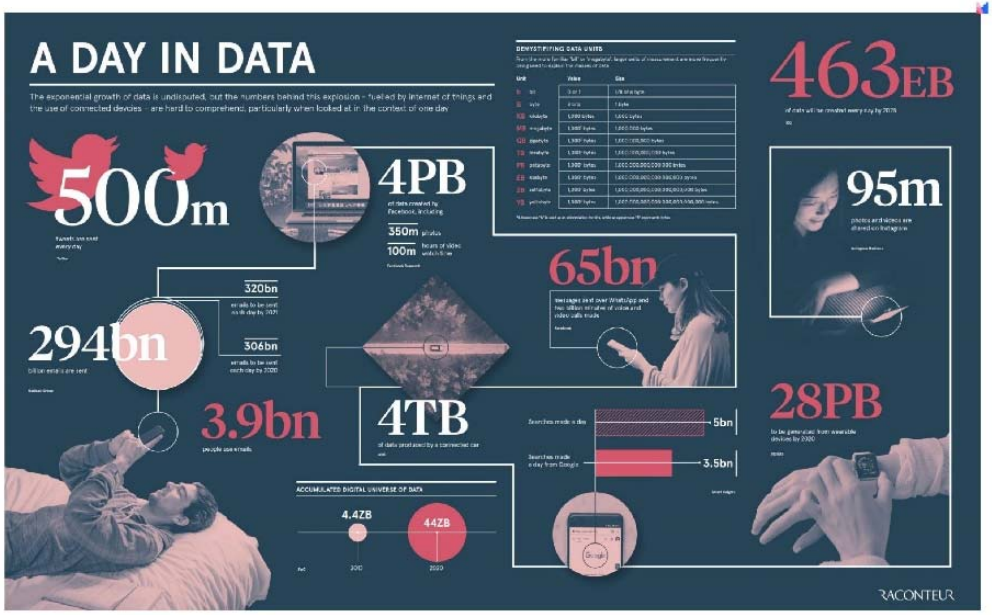
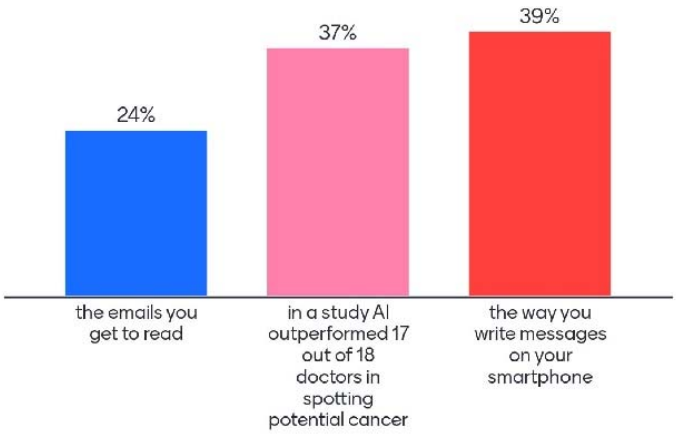


What relies on Artifical Intelligence? (more options possible)

Mentimeter



Mentimeter

AI has entered our daily life

- More than half of global email traffic is spam. But Google says less than 0.1% gets past its AI-powered filters.
- AI could revolutionize the medical sector. Here, AI would be used primarily as a support tool for practicing doctors.
- Your smartphone helps you with your everyday messaging. It predicts the text based on your most frequent words.

Which statement do you think is true?

Mentimeter

Mentimeter

Gender Inequalities - Why do women earn less?

The gender pay gap in the EU stands at 14.1% and has only changed minimally over the last decade. It means that women earn 14.1% on average less per hour than men.

Mentimeter

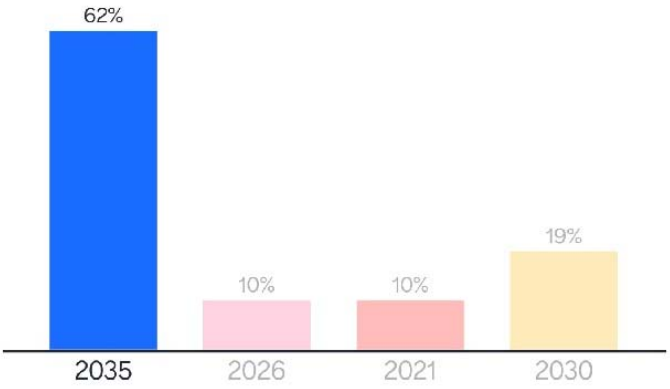
4 reasons why women earn less

- Sectoral segregation: Around 30% of the total gender pay gap is explained by the overrepresentation of women in relatively low-paying sectors, such as care and education. On the other hand, the proportion of male employees is very high (over 80%) in better-paid sectors, such as science, technology, engineering and mathematics (STEM).
- Work-Life Balance: Women spend fewer hours in paid work than men on average but more hours in unpaid work.
- The glass ceiling: The position in the hierarchy influences the level of pay: less than 10% of top companies' CEOs are women.
- Discrimination: In some cases, women earn less than men for doing jobs of equal value. However, the principle of equal pay for work of equal value is enshrined in the European Treaties (article 157 TFEU) since 1957.

Quiz Day 2 – An overview of Sustainability

1. When does Europe plan to achieve 65 percent recycling rates?

Mentimeter



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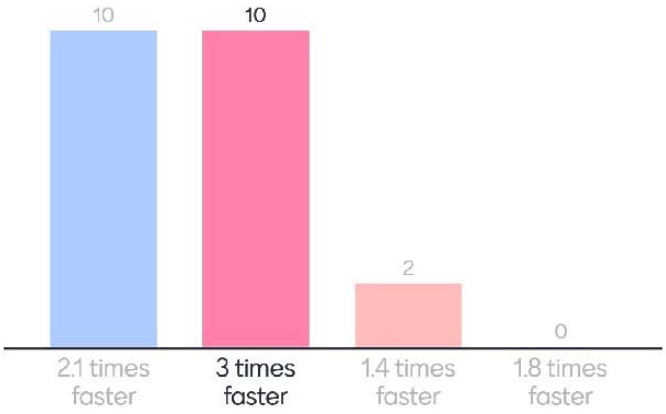
Mentimeter

EC's Circular Economy Package

In 2018 EC adopted the circular economy package, which establishes new legally binding targets and fixed deadlines for waste recycling and the reduction of landfilling. The package includes a common EU target for recycling at least 55% of municipal waste by 2025; this target would rise to 60% by 2030 and 65% by 2035. Also envisaged is a common EU target for recycling 65% of packaging waste by 2025, and 70% by 2030. There would be separate targets for specific materials.

2. How fast are polar temperatures changing compared to the rest of the planet?

Mentimeter



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Mentimeter

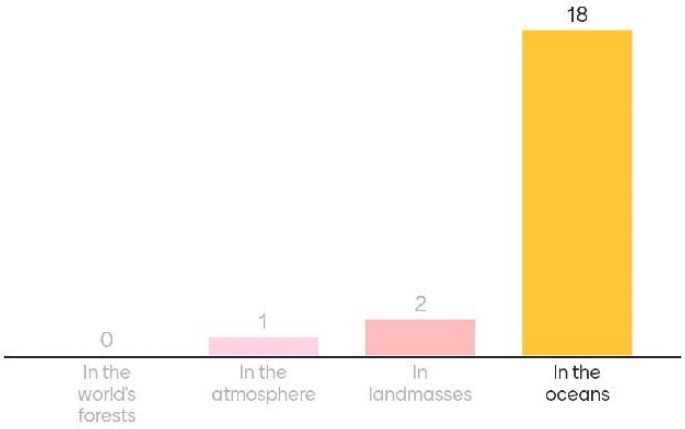
Polar amplification

The correct answer is three times faster. The poles are subject to a well-known function, polar amplification, that leads to the Arctic and Antarctic warming by two to two-and-a-half times the warming elsewhere. For each degree of warming across the whole planet, they warm up to 2.5 degrees. Because of positive feedback loops, the poles now warm three times faster, and the U.S. intelligence community warns:

"This has caused mass loss from ice sheets and glaciers as well as reductions in sea ice and thickness. Globally, the sea level has risen an average of 8 to 9 inches since the late 19th century."

3. Where is most of the heat absorbed by the planet due to CO2 emissions stored?

Mentimeter



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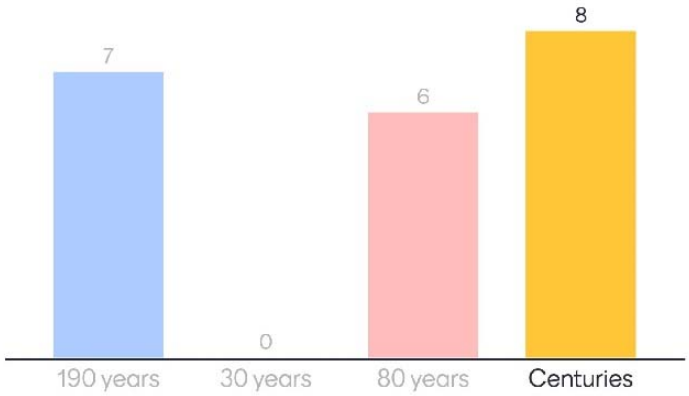
Mentimeter

The Oceans as heat storage

The correct answer is the oceans, which store approximately 90% of the energy trapped inside the atmosphere by rising CO2 levels. They are already almost 2 degrees F warmer, John Englander warns. According to the National Oceanic and Atmospheric Administration, global ocean temperatures have only warmed since 1977 after decades during which they mostly cooled. Why? More than half of the CO2 emitted in human history has been produced since 1988 — we're turning up the heat.

4. How long will sea level rise continue, even if humans cut CO2 emissions to zero?

Mentimeter

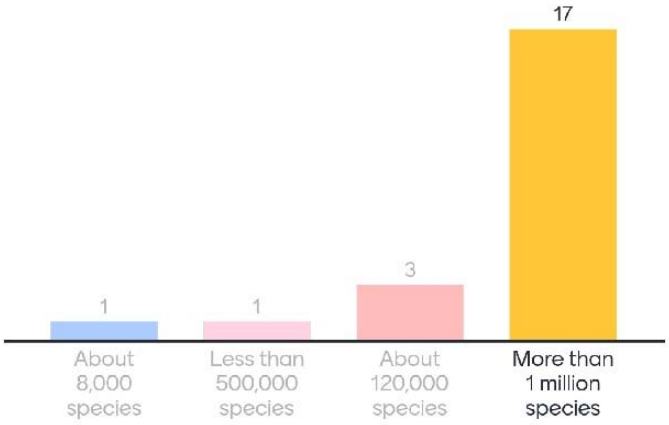


Mentimeter

> Even if we could immediately stop all carbon dioxide emissions and the warming, the excess heat already stored in the sea will continue to melt the ice sheets for centuries
>
> – *John Englander writes in Moving to Higher Ground.*

5. How many species are at risk of extinction in the next decade or so?

Mentimeter



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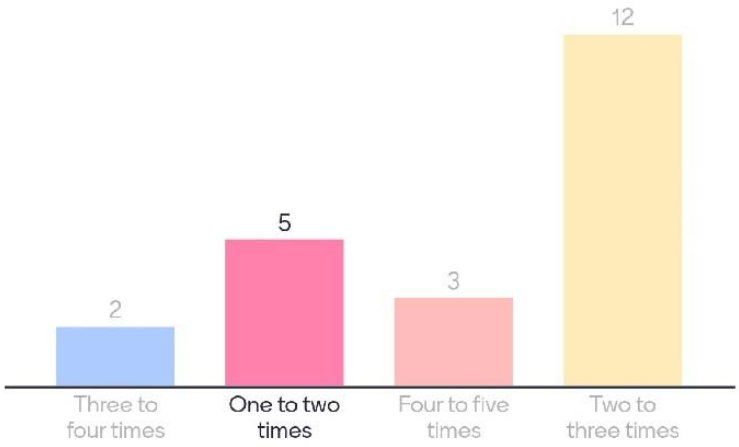
Mentimeter

Species at risk of extinction

The correct answer is "more than a million plant and animal species are at risk of extinction" because of human activity. A recent study published in Nature, found evidence that rapid declines in animal populations can happen unexpectedly fast and could result in losses of whole ecosystems, such as coral forests and tropical rainforests.

6. How many times can plastic be recycled?

Mentimeter



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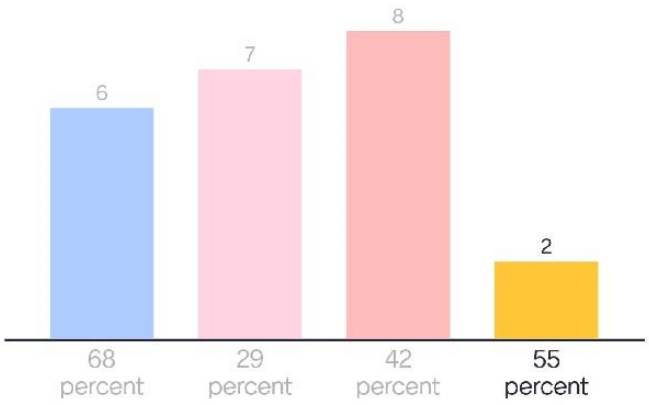
Mentimeter

Not as much as we thought....

Plastic is not a great choice for the planet.

7. What percentage of municipal solid waste is compostable?

Mentimeter



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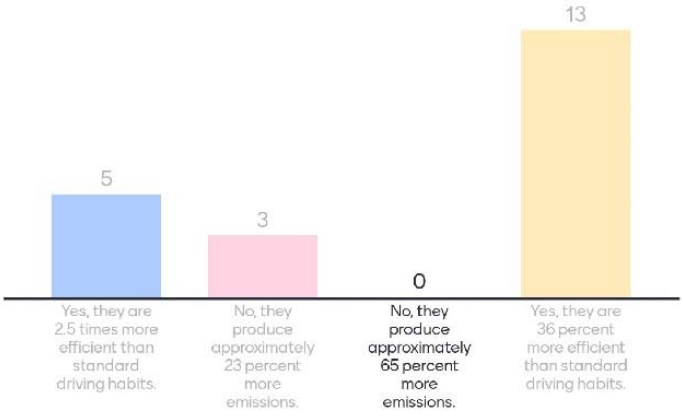
Mentimeter

According to the US Environmental Protection Agency

... 55 % of municipal solid waste is compostable.

8. Are ride-hailing services like Uber more environmentally friendly than driving?

Mentimeter



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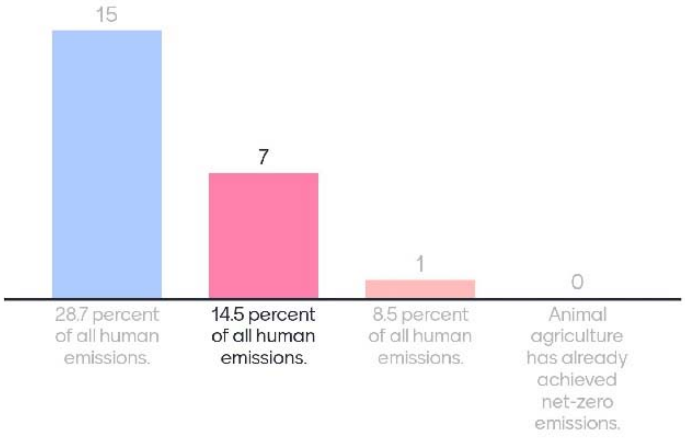
Mentimeter

Ride-hailing services

The correct answer is "No." Ride-hailing services produce about 69 percent more CO2 emissions than driving alone in our own cars, according to research by The Union of Concerned Scientists. However, when shared cars are used to collect people and deliver them to mass transit systems or regularly scheduled drop-offs at offices or shopping centers, they can be more efficient than having all those people drive separately.

9. What percentage of human greenhouse gas emissions come from animal agriculture?

Mentimeter



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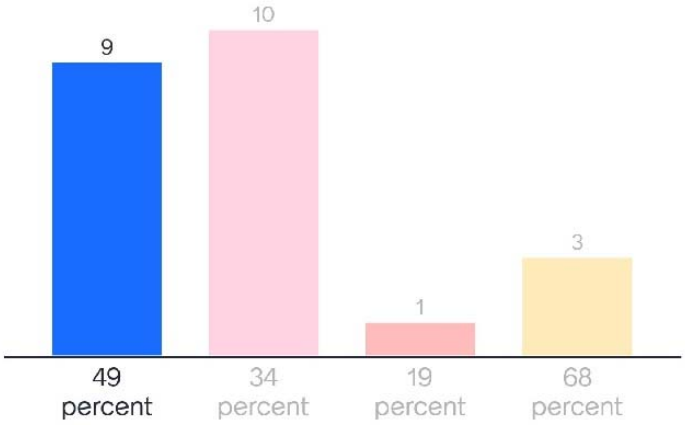
Mentimeter

GHG emissions in animal agriculture

The correct answer is 14.5 percent of all human emissions are the product of animal agriculture, according to the Food and Agriculture Organization of the United Nations.

10. How much did overall marine animal population decline between 1970 and 2012?

Mentimeter



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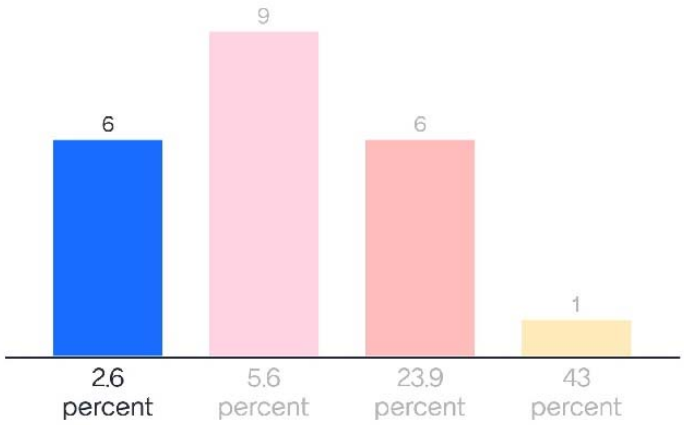
Mentimeter

Decline of marine animal population

The answer is 49 percent, based on "trends in 5,929 populations of 1,234 mammal, bird, reptile and fish species," according to The Living Blue Planet Report. Fish populations have declined 50 percent since 1970.

11. What percentage of bluefin tuna remains compared to its pre-industrial population?

Mentimeter



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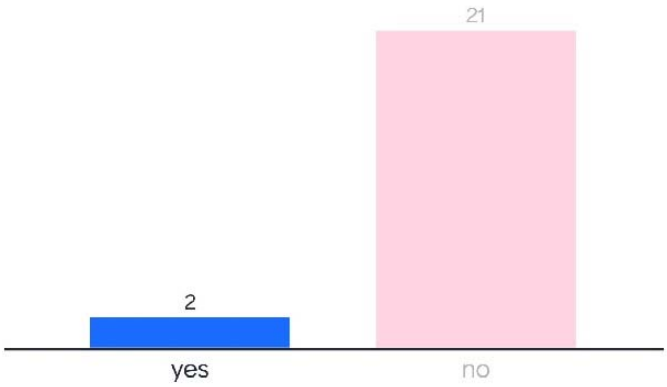
Mentimeter

Decline of bluefin tuna

The answer is 2.6 percent. When the decline was first measured in 2012, the bluefin population had declined to 3.6 percent of its previous population. That means that between 2012 and 2015, bluefin tuna declined by an additional 38.4 percent. Pass on the maguro sushi next time.

12. Do all major mobile phone makers recycle their products?

Mentimeter



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Mentimeter

Recyling programmes of major phone makers

The correct answer is "Yes." The major phone makers have recycling programs, some of which pay for old phones. Check your device's maker to find out more about how to turn in an old phone.