

Grant Agreement n° 822735, Research and Innovation Action





TRIGGER

Trends in Global Governance and Europe's Role

Deliverable number: 6.1						
Deliverable name:	COCTEAU Quarterly Landscape of Public Engagement					
WP / WP number:	6					
Delivery due date:	31.05.2019					
Actual date of submission:	31.05.2019					
Dissemination level:	Public					
Lead beneficiary:	ISINNOVA					
Contributor(s):	POLIMI, CEPS, SPI					

Not applicable

Dissemination and uptake

Public

Evidence of accomplishment

Report

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1. Introduction

As per TRIGGER Description of Work Task 6.1 (page 41) "the project will set up a permanent observatory to keep a constant eye on evolution of theories and tools for engagement, with a special focus on large scale engagements, such as in global decisions. The purpose of this task is to ensure that TRIGGERS leverage the most updated state of the art knowledge and applications on public engagement. Given the continuous evolution of the field, this task will not only be executed at the beginning of the project, but will also act as a permanent observatory to signal advancements in the field that will for sure occur during the entire duration of the project and beyond. The observatory will deliver quarterly maps (COCTEAU Quarterly Landscape) of the evolution of the field, and therefore build progressively a community of practice, beyond the members of the TRIGGER project, with the aim of becoming a beacon for policy makers, scholars and practitioners dealing with public engagement."

This deliverable illustrates the first design of Task 6.1 activities, showing in:

- Section 2, the overall architecture of the Permanent Observatory of Public Engagement (POPE).
- Section 3, the inception list of existing web resources on public engagement that will be constantly observed and the criteria proposed for their mapping. The inception list itself will be updated at each quarterly issue, adding new web resources that may be found useful for the POPE purpose.
- Section 4, an umbrella topic of interest responsible research & innovation and public engagement in the governance of transformative technologies – proposed for the first quarterly issue of POPE (next deliverable D6.2).

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2. Overall architecture of the Permanent Observatory of Public Engagement

POPE is not simply a new 'place' on the Web to observe the world of public engagement practices. It is a mechanism – actually a piece of software – that helps to trigger public engagement at the *right place and time*, on the *right issues and questions*, with the *right mix of people*, in the *right way*, helping the POPE user to explore the resources and applications existing in the field for a good design of the public engagement experience.

The "right issues and questions" are identified in each POPE quarterly issue as those more relevant for the TRIGGER focus on global governance and EU actorness emerged in the last quarter of the year.

The overall architecture of the POPE is illustrated in the figure below:

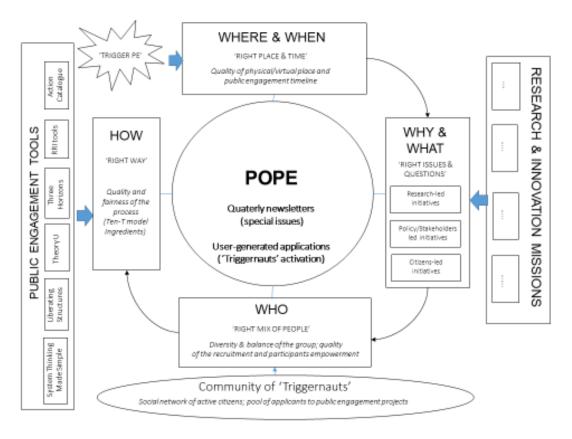


Figure 1

Figure 1 – Overview of the POPE framework

At the core of the mechanism there is the POPE functionality, the observatory that will map the public engagement resources and practices, and it will be kept constantly updated thanks to:

- The production of quarterly POPE issues that map the evolution of the public engagement field, highlighting the existing practices with thematic focuses (e.g. special issues on trustworthy Artificial Intelligence, blockchain and distributed ledger, etc.),
- User-generated content produced by so named "triggernauts", i.e. active users of the
 observatory that will use it to build up new public engagement activities which will in turn
 made be visible on the POPE environment.

Besides mapping the existing public engagement landscape, the observatory aims to help users (the triggernauts) to trigger their own public engagement initiatives on mission-oriented research innovation. This is represented by a design cycle that considers in turn the following steps:

1. WHERE & WHEN to launch and perform the public engagement activity – the right place and time. The place could be a physical venue or an online space, and the event could be a physical face-to-face workshop or conference, or a consultation, interactive discussion or virtual conference online. As for the time, public engagement requires a clear timeline for activities and expected results, usually combining a sequence of online consultations and face-to-face events, and deadlines for delivery results and feedbacks to engaged participants. POPE will help in this respect to map good practices (e.g. guidelines to ensure the quality of space and time planning) and sources that may support online public engagement (e.g. open virtual community platforms).

- 2. WHY & WHAT, i.e. the right issues and questions on which public engagement is focused. Here POPE will consider the different research & innovation missions, and scan for each mission the existing public engagement initiatives to which any new public engagement project should refer or connect to take stock of any "public engagement capital" already accumulated in the mission-oriented field. The existing initiatives are classified here in three main categories: research-led, policy and stakeholders-led, citizens-led.
- 3. WHO to engage i.e. the right mix of people to be invited in the public engagement process. Here POPE will scan the existing methods and practices of selection, recruitment, people capacity building and participants' empowerment to ensure the diversity and fair balance of voices heard in the public engagement process, and the effectiveness of advocacy outcomes. The aim of POPE is also to support concretely a community of active citizens (the triggernauts) eager to engage in mission-oriented research and innovation and policy assessment and advocacy activities on a more permanent basis. Such support can be provided by building a social network of active citizens, and a functionality for the selection of applicants from permanent pools of candidate citizens (calls for mission-oriented public engagement projects)
- 4. **HOW to perform the activities with the public** i.e. the right way of doing it to ensure the quality and fairness of the public engagement activities. Here POPE will scan the different sources of public engagement tools available on the Net, which can offer support to help organising new public engagement exercises. At a first glance, five sources have been detected (see next section 3 for more details):
 - Two generalist catalogues of public engagement practices: Action catalogue and RRI tools.
 - Four platforms providing key theories and applied methods for public engagement in design and future thinking activities: Liberating structures, System Thinking Made Simple, Three Horizons, Theory U.

To critically assess the utility and quality of the different tools and practices available, POPE will also consider a model of participatory foresight – the so named Ten-T model – which combines features of the Theory U and Three Horizons participatory foresight methods.¹

3. POPE inception list of web sources, mapping criteria and organization

In the following sub-sections we will provide an inception list of sources under scrutiny to map public engagement practices and tools available across the Web – divided in main theories and catalogues of tools, general/horizontal practices of public engagement, applied/vertical practices – and describe the POPE mapping criteria, organization and expected outputs.

3.1. Main theories and catalogues of tools

1. Action catalogue: http://actioncatalogue.eu/

Action catalogue is not only a system of relations between all public engagement methods and tools spanned the whole activities connected to science, research and innovation and their grade of applicability into a real case, but it's also a useful support tool to the decisional process of the organisation of responsible research and innovation projects. You can investigate based on 32 different criteria, with the possibility of weighing the importance of each criterion according to your specific need, among 57 inclusive and involvement methods. The 32 criteria have been defined to comprehend the description of the following categories: - the levels of application of the method/tool: policy formulation, programme development, project definition, research activity - the societal groups involved in the application of the method/tool (i.e. CSOs, policy-makers, researchers, citizens, affected citizens, consumers, employees, users, industry) - the level of public involvement of the societal groups listed above (i.e. dialogue, consulting, involving, collaborating, empowering, direct decision) - Grand Societal Challenge addressed: health, demographic change and wellbeing; food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bioeconomy; climate action, environment, resource efficiency and raw materials; Inclusive,

¹ The model describes participatory foresight as a journey participant are engage in to let a vision of the emergent future to come out and the participants themselves to get a greater awareness of the whole system evolution (eco-awareness) and change behaviour. The model can be introduced to the participants as follows: "Take your time to reflect on the emerging future, and be aware that there is no technological transition without transformation of meaning - and so the need of transcending the past and taking action into the future, integrating perspectives with a truly transdisciplinary engagement of different people (researchers, innovators, stakeholders, users, citizens) in mutual understanding and tuning of their intentional and empathic motivations, building trust to unlock the will to change and touching down to the source of eco-system awareness - and the whole thing does not exist unless told with a powerful narrative describing the new responsible (personal and social) practice". The ten "ingredients" of the model – which can be used as a checklist to assess their presence and quality in any public engagement in foresight exercises – are therefore: Time, Transition, Transformation, Trascending the past, Taking action into the future, Transdisciplinarity, Tuning, Trusting, Touching down and Telling.

innovative and reflective societies; secure, clean and efficient energy; secure societies, protecting freedom and security of Europe and its citizens; smart, green and integrated transport. The result is a fast and visually intuitive overview with a prioritized list of the methods that fit into your research with the opportunity of reading through the theoretical details of methods, where strengths and weaknesses of each are been emphasised, and a description of the previous examples relating to societal challenges that are usually addressed.

2. RRI Tools: http://www.rri-tools.eu/

In all-encompassing toolkit about Responsible Research and Innovation built upon 26 European institutions, there is also a section where access to different instruments to implement public engagement strategies and policies within the RRI framework. The public engagement is seen as opportunities to establish new bonds based on trust, two-way dialogue and long-term thinking guaranteeing profitable partnerships and advancing throughout a transdisciplinary approach towards collaborative decision-making and shared responsibility. The toolkit is a user-friendly list of resource to introduce public engagement in the daily practice of the five key actors for RRI identified by the European Commission (Policy Makers, Research Community, Education Community, Business and Industry, Civil Society Organisations). It includes a powerful search engine with several filters (e.g. expertise required, social challenge, type of material) and sorting options to allow tailor-made searches among all resource, categorised into tools, inspiring practices; projects and library. It offers also a complete guideline to implement the use of specific resources from the toolkit by concrete examples (e.g. participatory research agenda) and guided process (e.g. how to foster multi-stakeholder engagement). In this broad tool, there is the space for a self-reflection process among facets of public engagement, enlightening aspects that you are not considering to improve your practice. Deeper research can be conducted across training materials and the more than 1700 members in the RRI Community.

3. 3 Horizons: http://www.h3uni.org/

Three Horizons is a method enabling engaged participants to imagine transition scenarios in the long term (e.g. the year 2050), evolving from a conservative (Horizon 1) to a transformative (Horizon 3) outlook - a desirable scenario where new ways of doing emerge that will fit better with the evolving need and opportunity. After imagining the long-term scenarios, a back-casting analysis (Horizon 2) consider which innovation pathways, roadmaps and strategic agendas for the medium term (e.g. 2030) to achieve a desirable future, identifying what should be retained of the conservative scenario (H1), and what would be conducive to the transformative scenario (H3).

4. Theory U: https://www.presencing.org/transforming-capitalism-lab

Theory U is about change and transformation, it uses the U journey metaphor to describe for anybody involved - individually and in the group, team building experience - a consciousness path from habitual understanding of her/his current reality that is driven by the past to an emerging future that is inspired by the highest future potential. Theory U focus the attention to the invisible inner dimension of what it is called the social field. This is the quality of the relationships that we have to ourselves, to each other, and to the system, and that give rise to patterns of thinking, conversing, and organising, which in turn produce collective behaviour and practical results. And the key assumptions of Theory U - which ultimately enable to bridge the inner and intangible dimension of the social field with the outer and tangible reality - is that "form follows consciousness": the quality of the results achieved by any system is a function of the quality of the awareness that people in these systems operate from. Theory U provides the means to achieve a higher quality of the awareness - to shift from "egosystem" to "eco-system" awareness of the whole, moving people from their initial silo view to a shared system view - and in so doing is a powerful approach for public engagement in the governance of transformative innovations. The means include: 1) a grammar to understand and induce change (the "matrix of social evolution"); 2) a social technology, tools, process, principles and methods, for implementing awareness-based change (the so called U journey process); 3) a new narrative for evolutionary societal change that should lead to updating our mental and institutional operating systems in all society's sectors (the "matrix of economic transformations").

5. Liberating Structures: http://www.liberatingstructures.com/

Whatever we do, there is always a structure to support or guide what is being done. Without structures, there is just chaos. Buildings, strategies, policies, organization structures, and core operating processes are examples of what are called "macro-structures". They are built or designed for the long term and cannot be changed easily or cheaply. In contrast, meeting rooms, offices, presentations, agendas, questions and discussions are examples of "microstructures". They are the small structures that we select routinely to help us interact or work with other people. All micro-structures are made up of the same five structural elements, which determine how control is exercised over a group of people who are working together: 1) the invitation; 2) how space is arranged and what materials are used; 3) how participation is distributed among participants; 4) how groups are configured; 5) the sequence of steps and the time allocated to each step. How these elements are arranged can be changed easily from one event to the other, or even in the moment. In many organizations, people, and leaders in particular, spend an enormous amount of time passively listening to PowerPoint presentations - the most conventional "micro-structure" of interaction. This was unavoidable decades ago but not anymore. Current communication technologies make it possible to share information very effectively without people having to be in the same physical space. This frees up face-to-face time to be used for truly interactive activities designed to generate new ideas

or solve problems. To take advantage of this opportunity, a different kind of microstructure is needed that can fully engage participants. Liberating Structures are designed precisely for that purpose. These are adaptable micro-structures that make it possible for groups of people of any size to radically improve how they interact and work together.

6. STMS - System Thinking Made Simple: https://www.plectica.com/

The whole of science is nothing more than a refinement of everyday thinking. While system thinking has the potential to advance the whole science, it also has the power to transform everyone in their everyday thinking. To save our planet, solve crises, understand complex system and their wicked problems, we don't just need better scientists who think more systematically, we need better *citizens* who think systematically. This is the fundamental mission of System Thinking Made Simple (STMS). Four simple rules underlie system thinking which go by the acronym 'DSPR': 1) Distinction Rule: Any idea or thing can be distinguished from the other ideas or thinks it is with; 2) Systems Rule: Any idea or thing can be split into parts or lumped into a whole; 3) Relationship Rule: Any idea or thing can relate to other things or ideas, and 4) Perspectives Rule: Any things or idea can be the point or the view of a perspective. DSRP is universal to all systems thinking, and the plectica tool offer a simple but effective way for designing system thinking maps for visual clarity using the four principles mentioned above.

General practices (horizontal public engagement across different fields)

7. Double Diamond Design Thinking: https://www.designcouncil.org.uk/news-opinion/design-process-what-double-diamond

The Double Diamond Model was created based on the "extraction" of commonalities or similar approaches from very different ways of creative thinking. This model is a simple visual map of design process, divided into four distinct phases: Discover, Define, Develop and Deliver 1) Discover: it is an attempt to give a fresh look at the problem, identify new things and grasp the insights.2) Define: on this stage the most relevant and feasible possibilities, discovered in a previous stage, are prioritised. Based on this, the creative brief is formulated. 3) Develop: at this stage different solutions are getting tested in order to improve the ideas. 4) Delivery: the product is finalised and launched into the market.

8. Future Search: http://futuresearch.net/about/whatis/

Future Search is a methodology to plan a meeting in order to foster a convergence of a large group (60 to 100 people) into a common field where new actions are foreseen. The main principles are "to get the whole system in the room", ensuring the presence of cross-sector stakeholders in order to allow significant mutual learning and "to encourage self-management". These meetings last 20 hours, spread in three days. In these three days the

participants share their experience of the past, the present and the future. Based on this shared experience, they build the common ground, and only after that they start to develop concrete action plans. This method allows to "explore the "whole elephant" before seeking to fix any part", it builds the common ground for cross-section participants and puts the future focus at the centre. All these is strengthening the common will, and encourages the responsibility for future actions.

9. Living knowledge: https://www.livingknowledge.org/

Living Knowledge is an international network of organisations active in public engagement and involvement of Civil Society Organisations in Research & Innovation, and those who support those activities. This consortium promotes a community-oriented debate and open dialogue between science and citizens, by providing scientific knowledge for citizens in an inclusive, action-oriented and participatory way. It transfers civil society concerns and interests into the scientific discussion in order to foster a process of co-creation of knowledge between all actors of a society. The objective of a strategic impact on the international RRI policies is built upon a capillary net of Science Shops, namely intermediary organisations that work as a bridge between citizen groups and research institutions. These organisations are entities that attempt to create more wide-spread possibilities of access to science for social groups that would not or could not ordinarily interact with these disciplines.

10. Citizens for Europe: https://www.citizensforeurope.eu/

The mission of this project is to create more participatory and democratic Europe. Citizens for Europe (CFEU) accumulates European citizens from NGOs, foundations, media, public authorities, with a purpose to share resources and exchange practices. The project improves the networking for the participation in the European democracy. It also serves as a platform with hundreds of organisations and initiatives throughout Europe, where they exchange the information and experience about creating trustful relationships and increasing the impact of the project.

11. Play Decide: https://playdecide.eu/

Play Decide is approximately 90 minutes card game, designed for people from 13 years old onwards, for groups up to eight individuals. This game involves the participants into a fact-based structural group discussions, which enables them to explore a topic in-depth in an informal and informative way. The Play Decide card can be downloaded from the online platform. Play Decide encompasses three main phases where participants use facts, issues and stories cards to discuss their opinion about topics divided in categories. In the first phase, players clarify their own position about the selected topic, by exploring its different aspects and from diverse points of view. In the second phase, the cards on the table catalyse the discussion on common concerns, identifying those issues upon which they can converse and

deepen their mutual knowledge, enriching the process with social value. The third step is the deliberative part of the game, where after a selection and prioritisation of common areas of concern and interest for the group, the players vote on pre-set policies and they are encouraged to formulate their own policy. This Game has a strong potential for improving the participatory process by creating inclusive and structured discussions on relevant policy issues.

12. European Commission Citizens' Dialogues: https://ec.europa.eu/info/events/citizens-dialogues

Citizens' Dialogues is a project aimed to generate public debates with European Commissioners and other EU policy-makers, such as members of the European Parliament, national, regional and local politicians. This platform gives an overview of these the events. The events take the form of a question and answer session, organised in different cities across Europe, where citizens have a chance to provide their ideas, doubts and comments, thus, affecting the future policy decisions. Citizens' Dialogues initiative is an opportunity to understand the fundamental challenges that are transforming Europe and how the citizens are affected and benefit from it.

13. Eurobarometer: http://ec.europa.eu/COMMFrontOffice/publicopinion/index.cfm

Eurobarometer is a series of reports based on public opinion surveys conducted regularly on behalf of the European Commission. These surveys address a wide variety of topical issues related to the European Union and its member states. The study based on 1000 face-to-face interviews per country and investigates in-depth the motivations, feelings and reactions of selected social groups towards a given subject or concept, by listening to and analysing their way of expressing themselves in discussion groups or with non-directive interviews.

14. CIMULACT project (H2020): http://www.cimulact.eu/

The main goal of the CIMULACT project is to establish and improve a dialogue between citizens, stakeholders, scientists, and policymakers. Based on this dialogue, the future perspectives and possibilities should be developed and transformed into policy recommendations for the European Agenda. The project has utilised a variety of methods and options for citizen and multi-actor engagement in order to include in a bottom-up process. Regarding the public participation process, CIMULACT has recognised citizen expertise in the daily aspect of life, and importance of their involvement in local consultations.

15. CAPS – Collective Awareness Platforms for Sustainability and Social Innovation: https://capssi.eu/

The CAPSSI project builds online platforms targeted to the broad audience in order to increase awareness of sustainability issues. The networks, build on these platforms, are

designed to create collaborative solutions and new forms of social innovation on topical issues, such as sustainability concerns, environmental-friendly lifestyle changes, transformation of the production processes. All these activities enable to broader the participatory channels in the democracy. The platform enables the exchange of best practice and offer other mechanisms for a collaborative learning between students, researcher, civil society initiatives, entrepreneurs and policymakers.

16. EU Policy Lab (JRC): https://blogs.ec.europa.eu/eupolicylab/

The EU Policy Lab is a project aimed to bring creativity and innovation into European policy-making through the following methods: Foresight, Modelling, Behavioural Insights and Design for Policy. With a strong visual approach, the Policy Lab tests and co-designs, generates the open conversations and facilitates collaboration between policy-makers and stakeholders in order to strengthen connections for a co-creation of new process, tools and solutions for the policy-makers and the improvement of the policy processes.

17. Futurium: https://ec.europa.eu/futurium/en

Futurium is an online platform created by the European Commission for the EU citizens.in order to promote discussion on EU policies. The platform provides relevant articles, videos, events and good practices. It also crates the space for the discussions on the topical issues, such as sustainable urban development issues, future and emerging technologies supporting science, ICTs for water management and usage, artificial intelligence (Alliance and ethics guidelines for trustworthy), professional network for boosting European cohesion, digital connection of institutions and academia, sharing economy, simplification of EU Structural and Investment Funds, WIFI spreading, excellence innovators and innovations, eGovernment, gender concerns in company culture, media literacy, industrial and economic digitalisation and peer review.

Applied practices (vertical public engagement in specific fields)

Governance and Internet

18. Corporate Social Responsibility & Responsible Business Conduct (The European Commission's Strategy) https://ec.europa.eu/growth/industry/corporate-social-responsibility_en

Recognizing an extreme importance of corporate social responsibility (CSR), the European Commission (EC) adopted renewed strategy for CSR in 2011, followed by a staff working document in March 2019, which gives an overview of the progress implementing CSR/RBC (responsible business conduct) and business and human rights. The EC in this strategy combines horizontal approaches to promote CSR/RBC with more specific approaches for individual sectors and policy areas. It defined CSR as the responsibility of enterprises for their impact on society and, therefore, it should be company led. Companies can become socially

responsible by: integrating social, environmental, ethical, consumer, and human rights concerns into their business strategy and operations. These activities are rightly expected by EU citizens, in sense, that companies should understand their positive and negative impacts on society and the environment. And, therefore, prevent, manage and mitigate any negative impact that they may cause, including within their global supply chain. Therefore, CSR and RBC are remarkably important for the transition to a sustainable economic system.

19. Crowdlaw: http://thegovlab.org/crowdlaw-as-a-tool-for-open-governance/

The Govlab brought together different CrowdLaw experts from around the world to collaborate on developing CrowdLaw method. The CrowdLaw method is a new way to include new diverse opinions at every stage of the law- and policy-making process. Basically, CrowdLaw is a tool for "open" governance. CrowdLaw uses advanced technologies to increase public participation in urban law making. CrowdLaw method organizes public participation on local government level through informing, consulting involving, collaborating with, and empowering the public. It is a technology-enabled participatory law-making tool. Till now, the governments are using online and offline mechanisms to promote participation in policy formulation. CrowdLaw went beyond this "classical" methods of participation - it offers the incorporation of new technologies into the entire law-making circle at local levels of government - problem identification, options identification, drafting, decision, implementation and review. The method is based on the idea how technology can be used to enhance the practice of democracy. CrowdLaw method is intended to strengthen existing public participation processes and it helps governments graduate up the continuum of public participation by moving from informing, consulting and involving the public to collaboration with, and empowerment of, the public. This tool of open governance is relevant for the COCTEAU project, because it gives direct tools for public engagement with the use of new technologies through all stages of policy circle.

20. Contribute to law making of the EC (better regulation): https://ec.europa.eu/info/law/contribute-law-making_en

The European Commission offers an opportunity for citizens to participate in policy-making process through: (1) contribution to public consultations and giving feedback to Commission Initiatives; (2) making suggestion on how existing laws could be improved. This is an offline mechanism to promote participation in policy formulation and effectively used and tested in public engagement initiatives.

21. Tim Berneer Lee project for a distributed Internet: https://solid.mit.edu/

Considering that a lot of data ownership issues and privacy problems came up recently in the field of Internet use, the Solid project aims to radically change the way Web applications work, resulting in true data ownership as well as improved privacy. Solid is a tool for building

decentralized social applications based on Linked Data principles. Solid is modular and extensible and it relies as much as possible on existing W3C standards and protocols (the World Wide Web Consortium is the main international standards organization for the World Wide Web). Solid offers a possibility to have "True data ownership", meaning that the users have the freedom to choose where their data resides and who is allowed to access it. This is realized through decoupling content. Because applications are decoupled from the data they produce, users will be able to avoid vendor lock-in, seamlessly switching between apps and personal data storage servers, without losing any data or social connections. These decentralized social applications could be used for public-engagement activities, considering that these solutions resolve data ownership problem, allowing using both "public" application and personal data storage.

22. Global Solutions Network: http://gsnetworks.org/

A Global Solution Network (GSN) — is a new effective type of global problem-solving organization through networks. In this project 10 global solution networks were identified and studied asking what makes them work and find the solutions and to understand their potential to change the world. The method describes how these diverse networks work an explains their combined potential for improving the world. Global Solution Networks was developed as a definitive resource of expert insights, cases and field tools for global problem solvers. The theory was applied to the application of GSNs, offering learning tools, workshops and a Field Guide for action. With these tools, network leaders can build or scale GSNs while they connect to fellow problem solvers around the world. The issue-based hubs span climate and planet stewardship, health and human security, employment and prosperity, and cities. On each hub expert curators invite nominations of successful GSNs to help grow a comprehensive network of GSN networks. The GSN hubs could be productively applied for public engagement projects and, particularly, for mission-oriented policies, such as already used in climate, health fields and others.

23. Coalition of Automated Legal Applications: https://coala.global/

Coalition of Automated Legal Applications (COALA) enables multi-disciplinary research and collaboration among a variety of experts from different disciplines and networks, oriented to explore the implications and deployment of blockchain technology. It gathers lawyers, academics, computer scientists, and entrepreneurs with a collaborative mindset, researching together the challenges and opportunities of blockchain technologies, and the impact of automation and decentralization on law and society. COALA also engages community for the purposes of research through internal workshops, public conferences, participation in multistakeholder forums. It provides policy guidelines and best practices for the development of techno-legal tools to support specific usages and applications of blockchain technology in the legal system and policy guidelines for the development of legal and governance frameworks

that can better accommodate blockchain-based systems. COALA fosters an open space for the development of foundational building blocks, common protocols and standards to promote collaboration among initiatives in the space and pilots of blockchain-based applications to showcase the potential of the technology to support the social good. These technologies, and, particularly, blockchain-based applications are very relevant for the COCTEAU project, since technical solutions with resolved property rights questions are needed for the public engagement activities.

24. MIT. Digital Currency Initiative: https://dci.mit.edu/

This initiative conducts a research on blockchain and digital currency topic: core software and infrastructure development that addresses questions about security, stability, scalability, privacy, and the internal economics of these systems. It also launches the pilot projects and other research initiatives aimed at exploring and testing applications and use cases for the technology within business, government and society at large. It is a convener for governments, non-profits, and the private sector to research and test concepts with high social impact. It equips students with skills to drive innovation in blockchain technology. This project is important to consider for the COCTEAU project because public engagement technologies based on blockchains are more adaptive for these purposes and covering the security issues. In addition, the pilot projects with high social impact, provided in this initiative, could be studied as examples and adapted for public engagement projects.

Environment

25. Digital Earth Lab (JRC): http://digitalearthlab.jrc.ec.europa.eu/

This project aims to advance the understanding of the ongoing digital transformation of society and investigates movements that are emerging from the constantly increasing availability of data that are generated and contributed by citizen. It explains the possible roles of citizen and the (power) relationships that are emerging due to data and the ongoing digital transformation of society. While keeping a holistic view across the different possible types of citizengenerated and citizen-contributed content, the work helps to advance the understanding of peoples' intentional engagement in authentic scientific investigations (Citizen Science) and its possible usages for European policy. Digital Earth Lab aims to (1) provide methodologies to integrate Citizen Science into the policy cycle; (2) operationalize an information platform that can support the underlying processes; and (3) reflect on the changing role of the public in European policy making and new forms of contributions to the provision of scientific evidence. The knowledge, produced by Digital Earth Lab, could be used in The COCTEAU project for working on the new ways of integrating citizens into policy process.

26. System Thinking Playbook for Climate Change: https://www.rri-tools.eu/-/the-systems-thinking-playbook-for-climate-change-a-toolkit-for-interactive-learning

In this playbook 22 games are described and illustrated, motivating through a matrix where functions and system behaviours and conceptual errors are systematized when and why is better utilise a game rather than another. Based on the belief that "when we do, we understand", the plays are thought and collected to facilitate the understanding of the dynamics of the climate system to the users and the embedding of relevant behaviour for climate mitigation into their every-day actions. Throughout these strategic exercises, the player can recognize the local effect of climate change (e.g. on precipitation patterns or temperature levels), begin a positive spiral which involves other citizens to care about the environmental problem and helps the policy-makers to design, realise and implement better and effective policies. It's a support to experts, advocates and teachers in all activities of communication and education about climate change. Even if there is a scientific description of all fundamental aspect of the climate dynamics in order that the game administrator deeply understands the situation, it is not a self-standing course on climate change. This book is a really useful tool for a real perception of the issue, understanding all the long chain of causes in order to make the citizens able to anticipate effects and to build a conscious change for the imminent future.

27. Transition Town network: https://transitionnetwork.org/

The transition network is based on the transition movement, created from the early environmentalists of Totnes. The transition network is based on eight principles: respect resource limits and create resilience; promote inclusivity and social justice; adopt subsidiarity; pay attention to balance; acknowledge and learn from failure as well as success; freely share ideas and power; collaborate and look for synergies; foster positive visioning and creativity. These statements are broadly described in a book that represents a bible for the transition group. People gathering weekly for reading, understanding and discussing it. From the exchange of perspectives and ideas many different and independent actions born. As a natural consequence of hand-to-hand groups interactions, the transition movement is more concentrated in the urban context. National and international gatherings, as well as the online platform, helps to know about neighbours' initiatives, events and hub, to update on stories and news, to connect with projects, to research and traine opportunities and to participate in alternative local economies.

28. MISC - Mapping Innovations on the Sustainability Curve: http://fotrris-h2020.eu/material-for-uptake/

The methodological framework is proposed for facilitating transition by 'Mapping Innovations on the Sustainability Curve' (MISC). The framework consists of dynamic systems maps reflecting the structural characteristics of sustainable systems, and includes insights on economic and monetary transition. It allows to explore missing links and leverage points in a transdisciplinary and participatory context, and results in an 'ecosystem' of possible transition

initiatives at different levels. It allows various actors to discuss leverages for transition in a transdisciplinary setting. The focus is on how this 'social transition' can be facilitated, using a methodological framework that is based on insights from systems theory and process ecology as well as on literature on economic and monetary innovation, and that allows different actors (representing politics, academia, business and civil society) to discuss and map innovations for transition in a semi-structured manner, following the outline of a curve that visualizes the sustainability parameters of systems.

29. CASI project (FP7): http://www.futuresdiamond.com/casi2020/

The project "Public Participation in Developing a Common Framework for Assessment and Management of Sustainable Innovation" (CASI) developed a coherent methodology for the assessment of sustainable innovation practices, based on a sound conceptual framework and a shared understanding of sustainability in innovation among stakeholders. Shared crossfunctional understanding of sustainable innovation — CASI integrated the perspectives of multiple innovation and sustainability stakeholders, including those working in policy formulation, in academia, civil society, and practitioners. The project produced Common Framework for the Assessment and Management of Sustainable Innovation. It is based on all of the knowledge accumulated through CASI's implementation, and reflects expertise from various disciplines, results of academic research, and lessons from practitioners' experiences. It also provided a database of case studies on sustainable innovation of EU-wide sustainable innovation cases representing identified innovation practices, which have been analysed through the application of CASI-F. For the COCTEAU purposes, this project shows a valuable example of public participation in formulation of responsibility in the innovation field.

Health

30. Xplore Health: https://www.xplorehealth.eu/

Xplore Health provides variety of tools for public engagement in health questions, such as simple introductory videos for complex health topics, videos with virtual experiments, online games, worksheet for pupils and games to engage in dialogue. Basically, through popularization of scientific complex discourses, "translating" them to broader audience, they engage them to common discussions and dialogues. This method is effective for public engagement in complex topics.

31. Community Campus Partnership for Health: https://www.ccphealth.org/

This is a non-profit membership organization that promotes health equity and social justice through partnerships between communities and academic institutions. It emphasizes partnership approaches to health that focus on changing the conditions and environments in which people live, work, study and play. This organisation accumulates knowledge, provides

training and technical assistance, conducts research, builds coalitions and advocates for supportive policies. This successful practice of community engagement and partnership in health could be also applied to other fields and used for public engagement in mission-oriented policies and others.

3.2. Mapping criteria

The POPE will be built and constantly updated over the course of the project in a way that the state of art on public engagement methods and tools is always actual. The Pope will be accessible on the web page of the TRIGGER project and disseminated through different existing resources (such as LinkedIn). A quarterly issues of the POPE will be dedicated to the different crucial, topical arguments connected with public engagement. Such, the first issue of the POPE will be concentrated on the responsible innovation and public engagement in the governance of transformative technologies. Having the base of the POPE in the beginning of the project, which is a list of the Public Engagement sources, formed on the basis of preliminary research and scanning, Later, with the development of the quarterly issues, the POPE will be grown and enriched by additional sources, found trough more targeted search on concrete topics of the POPE issues.

The POPE will review relevant sources of public engagement theories and tools: online catalogues, theories, articles, applications of different PE tools in different fields. This information will be organised in a structure, proposed bellow.

Structure of the Observatory: Assessment of Public Engagement resources

- 1. Main Goal:
 - o Promote idea
 - New policy
 - Call to action
 - Community building
 - Mission
 - Catalog
 - o Other
- 2. Field of application:
 - o Governance
 - Health
 - o Food
 - Energy
 - o Climate
 - o Transport
 - Others (specify)
- 3. Tools provided to Public Engagement implementation:
 - Online/ offline
 - Specify the different types of support available:
 - Workshops/events formats
 - Downloads (reports of PE activities, guidelines, tutorials)
 - Online interaction tools

- Platform facility
- Other
- 4. Status of the source:
 - Constantly updated
 - Not updated
- 5. Stage of the policy cycle
 - Agenda setting
 - Policy formulation
 - Policy adoption
 - o Policy implementation
 - Evaluation
 - o all
- 6. Type of output:
 - o tangible
 - o intangible
- 7. Level of impact:
 - o Global
 - o EU
 - Regional
 - Local
- 8. Scope
 - horizontal (help off-line on any system, universal in terms of applying in different fields)
 - vertical (occurring on one specific topic)
- 9. Type of communications with the public:
 - o one way (e.g. only informing citizens on the policy agenda)
 - two ways (also having the feedback from citizens)
- 10. Target audience who we want to participate in the community?
 - Researchers
 - Business stakeholders
 - Policy makers, public managers
 - Civil Society stakeholders (NGOs, trade unions, etc.)
 - Citizens
 - o Sub-targets: students, employees, elderly people etc.
- 11. Fit to COCTEAU building purpose
 - Describe why and how the source could be useful to inspire/feed the COCTEAU platform with meaningful content

3.3. Organization and outputs

The POPE information will be organised and stored initially in an Excel file. The file is organised according to the structure proposed above. It is designed in a way that can be easily manageable according to request that one has, for example, to find all exciting tools in the topic of Responsible Research Innovation, which uses only online tools, on the global level, with two-direction communication with citizens, targeted to students. In addition, the fit for COCTEAU process will be identified for each source.

The POPE will be **distributed and promoted** through series of channels:

- Quarterly issue will be placed on the website of the TRIGGER project in the section "Tools&APPs" with a short eye-catchy introduction and possibility to download the full version the PDF file.
- The newsletter will be formed and distributed to the relevant audience. Currently, the template
 of the Newsletter and was developed using MailChimp source (Annex 1). In addition, the
 template for Infographics was developed in the PowerPoint and applied to the newsletter
 (Annex 1).
- The series of interview will be prepared and placed to the You tube channel.
- All the activities will be constantly uploaded on the LinkedIn page, Twitter account and other relevant sources.

The POPE will be constantly **updated** during the project following the new topics for the quarterly issue, and general search through open sources (ISINNOVA lead).

4. Public engagement in the governance of sustainable development challenges and transformative technologies

The first POPE issue is planned to be delivered at the end of June and disseminated since July 2019.

It will be focused on the recent endorsement by the European Union, in the Draft Council conclusions of 29 March 2019 "Towards an ever more sustainable Union by 2030" of the UN Sustainable Development Goals (SDGs) Agenda 2030. The Council of the European Union urges the Commission to elaborate a comprehensive implementation strategy outlining timelines, objectives and concrete measures to reflect the 2030 Agenda and mainstream SDGs in all relevant EU internal and external policies. In this respect, the Council:

- welcomes the European Commission's Reflection Paper "Towards a Sustainable Europe by 2030"² as an urgently needed contribution to the debate on a more sustainable future of Europe and the strategic priority setting for the next European Commission;
- welcomes the Commission's analysis of Europe's key sustainable development challenges, as well as its call for the EU to build upon its accomplishments and become a "trailblazer" for sustainable development at the global level, in partnership with the United Nations, through reaffirmed and enhanced multilateralism, and shared values;
- urges the Commission, in elaborating this comprehensive EU implementation strategy, to
 present a clear roadmap for addressing challenges and opportunities outlined in the
 Commission's Reflection Paper, possibly also in the form of action plans and sectoral
 strategies, prepared where appropriate by high-level expert groups;
- recalls that implementing the 2030 Agenda represents a shared responsibility and requires
 the continuous and strong involvement of all stakeholders in a well-organised and transparent
 participatory process to enhance collaboration among them and to facilitate partnership
 involving the EU and its Member States, local and regional authorities, civil society, the private
 sector, academia, NGOs, social partners, citizens and other stakeholders, including through
 targeted communication and by using digital collaboration tools.
- highlights the important role of the private sector in achieving the SDGs and encourages its
 continued constructive involvement, through market-based partnerships, investments and
 business models in line with Responsible Business Conduct (RBC) and Corporate Social
 Responsibility (CSR) principles. These principles, which are based on other instruments such
 as the OECD Guidelines for Multinational Enterprises or the UN Guiding Principles on

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² https://ec.europa.eu/commission/sites/beta-political/files/rp_sustainable_europe_30-01_en_web.pdf

Business and Human Rights, should underpin a robust EU policy framework, including an EU action plan on RBC. The latter should promote responsible management of global supply chains in order to shape an international level playing field.

While introducing the whole EU endorsement of the SDGs Agenda 2030, the first POPE issue will sharpen the focus on the two last bullet points above, presenting:

- ✓ The POPE purpose and landscape of public engagement initiatives that will be constantly
 monitored, the COCTEAU pilot design and the guidance on sustainable development
 challenge oriented public engagement cases for the community of "triggernauts" (active users
 of the platform).
- ✓ A special focus on responsible business conduct (RBC)³, responsible innovation and building responsible communities of practice to strengthen public engagement in the governance of sustainability transitions.

The following two sections anticipate basic concepts and elements related to these points, which will be addressed in full in the first POPE quarterly issue (Deliverable D6.2).

4.1. Sustainable development challenge (SDC)-oriented public engagement cases

This section describes an approach to realise – with the support of the POPE functionalities that would enable prospective users to find resources to design new public participation activities – SDC-oriented public engagement cases. The latter will be spaces for ideas and information related to sustainable development challenges to be shared and debated.

To ensure consistency, each case will be oriented to a challenge coherent with responsible innovation aims. It can bring together the capacities of several academy, business, civil society and policy experts to support public engagement for advocacy and involvement in policy formulation processes.

In principle, the geographical scope of the public engagement case can be global, regional, national, or local level, depending on the context of application. However, in the TRIGGER project the scope will be usually global or regional, not limited to national or local boundaries and issues.

The public engagement cases will address grand societal challenges (e.g. climate change, citizens health and wellbeing, etc. – it will depend on the specific focus of each case). They must include different research and knowledge perspectives, and activate innovation across sectors,

³ This is a term - alternative to Corporate Social Responsibility (CSR) - introduced by the OECD in close cooperation with business, trade unions and non-governmental organizations. The OECD has defined RBC as "making a positive contribution to economic, environmental and social progress with a view to achieving sustainable development and avoiding and addressing adverse impacts related to an enterprise's direct and indirect operations, products and services".

across actors and across disciplines. They could also enable bottom-up solutions and experimentation. As such, they must be grounded in enhanced inter-disciplinary and transdisciplinary practices, to be well designed and properly implemented, and eventually contribute to deliver responsible research and innovation (RRI) outcomes.

This concept of SDC-oriented public engagement case is visualized with what we can call the **PE4RRI framework** below:

SUSTANABLE DEVELOPMENT CHALLENGES (SDCs) & INNOVATION Shared value 'Responsibility' Integrity creation 'Innovation' dimensions: can be: Transparency ntability of decisions actions) Technological RESEARCH Responsible Anticipation Research & Innovation Social RESPONSIBLE Inclusiveness Frugal Sustainability SDC-oriented (what we leave to next generations) Public Engagement Ē Case PUBLIC ENGAGEMENT to address Multi/Inter/Trans-Citizens Stakeholders disciplinary KNOWLEDGE CO-CREATION practices Researchers

SDC-oriented Public Engagement

Figure 2

Figure 2 - SDC-oriented Public Engagement

In this framework, Public Engagement (PE) is seen as a mean applied to achieve the purpose: of Responsible Research & Innovation (RRI)

The framework combines the practice of public engagement, involving different actors detected from the different projects and initiatives surveyed in the POPE and pertinent to the challenge on focus (bottom part of the framework), with the purpose of responsible research and innovation addressing sustainable development challenges (top section of the framework). "Innovation" can include different forms of processes (driven by science and technology, social innovation, frugal innovation) and "responsibility" is a multi-faceted concept, including four dimensions:

 Transparency, to build trust based on a greater accountability of past and present decisions, actions and intentions.

- **Anticipation**, to take care of the possible consequences in the future, intended and unintended, and reflect on their ethical acceptability.
- **Inclusiveness**, which means taking care of what is societally desirable for the current generations.
- Sustainability, which means taking care of what we leave to the next generations.

How the triggering, design and implementation of new mission-oriented public engagement cases should work?

In principle, each case will require to:

- Identify the challenge on focus and the pertinent research projects and other public
 engagement initiatives. The public engagement case will consider the Sustainable
 Development Challenge on focus and select a portfolio of projects and initiatives addressing
 the challenge and engaging different actors researchers, stakeholders, citizens to
 stimulate interaction, experimentation and horizontal learning across the board.
- 2. Organize workshops and online activities to support the learning case. Concrete activities to deploy the public engagement case will include the organization of one or more workshops, and may include online activities to support the process and to disseminate the public engagement case results to broader audiences:
 - Public engagement workshops: The first factor of success is to invite the right people for the purpose of the workshop. Participants will be selected choosing key experts and actors from the challenge pertinent projects and initiatives. Every effort will be made to ensure gender balance among participants. The second factor of success is to carefully prepare all the aspects of the participation experience, including: 1) adequate logistic for the meeting and support to the invited participants; 2) quality of the information provided to the participants on the scope, purpose and attendance of the workshop. Usually this is summarised in a discussion paper including the challenge state of play and a set of questions for debate; 3) adequate structure and programme of the event, to ensure a fair and mission-focused dialogue, exchange of knowledge and contribution from all participants; 4) adequate facilitation tools and staff. Workshops may run from few hours (focus group format) up to one day and half or two days. In the latter case, they will be normally managed by a team of 2 facilitators, and structured with opening plenary sessions, small groups sessions (world café methodology) and a plenary session for conclusions; 5) reporting and evaluation of the learning workshop process and results.
 - Online activities. As a minimum, online support will include the dissemination activities (workshops announcements, newsletters, dissemination of workshop report). A more substantial support can include several options: 1) using an e-learning platform to provide

background information and training materials, either to the workshops facilitators or to the participants, the latter to share challenge-pertinent knowledge before, during or after the workshop itself; 2) using a virtual community platform to engage participants in living online forums, blogs and interactive discussions (before and after the workshop, or even independently from this, as the target of the online discussion will be a broader audience).

The primary ambition and function of the POPE supported SDC-oriented public engagement cases is to develop new thinking, research, ideas, and policies that can help solve global problems – ubiquitous challenges that require exchange of knowledge, practices and fostering cooperation and coordination among several actors to be tackled effectively.

This will help to build progressively a community of practice, beyond the members of TRIGGER, with the aim of becoming a beacon for policy makers, scholars, practitioners dealing with public engagement, and for active citizens as well – the "triggernauts".

Knowledge and learning networks should be cultivated within the community, and they should foster a culture of openness and inclusion, be transparent, and involve multiple stakeholders. Knowledge generated in the SDC-oriented public engagement cases will prepare stakeholders to advocate more effectively, create or co-create policy, and spread critical information to users. More informed and savvy users can better anticipate the impacts of disruptive technologies on their own life prospects, realise the full value of these technologies, creating opportunities for a greater share in global prosperity, or at least for better protecting themselves from harmful consequences.

Last, but not the least, knowledge sharing can instigate a fruitful dialogue with government, enhancing its own learning and awareness of evolving societal needs. Whatever the particular policy issue, if governments do not understand disruptive technology and don't understand the implications, they are setting themselves up to failure.

4.2. Building responsible innovation communities of practice

There is an increasing amount of dialogue, research and initiatives among academics, policymakers and governance organisations about the responsibilities of researchers and innovators – activity that is growing in a similar way to that surrounding the concept of sustainability in the 1990s. 'Responsible innovation' asks to be more broadly accountable for the consequences of the innovation.

"Responsibility" is to be seen as a collective concern, engaging several actors – industries, governments and customers/citizens – in a shared venture.

At a more abstract level, responsible research and innovation has been defined as 'a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the

innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advancements in our society)' (von Schomberg 2011). This means that the impact and effects of new scientific advancements, products and technologies on society should be considered prior to and all throughout their development.

A practical approach to foster responsible innovation across the board would require to build up a community of responsible innovation practitioners.

A community is a group of people that share or have something in common, such as interests, skills, ethnicity, beliefs, or a specific locality or geographical space. Communities might share physical resources and/or knowledge resources. The members of a community interact socially and often cooperate to accomplish tasks that cannot be fulfilled by a single individual. A community of practice and purpose encompasses:

- Sharing a practice: this in our case refers to a group of people experts from the academic, business, civil society, and governmental worlds, pioneer innovators and citizens/users (e.g. early adopters of a new technology) which share a concern, a set of problems, or a passion about a responsible innovation topic. The members of the group may share their thinking, and learning from interacting on an ongoing basis and exchanging their knowledge and practices.
- Sharing a purpose: the purpose is to find a meaning e.g. the improvement of personal and social well-being in the innovation of concern, discussing use scenarios and their likely consequences against a set of shared values and criteria for judging their desirability.

Building a community to engage experts and citizens from different walks of life make sense when dealing with transformative technologies and potentially disruptive innovation.⁴

In such circumstances, thinking ahead to the impacts and effects of new scientific advancements and radical innovations will help to devise ways to shape and adapt implementation to societal needs, including responsible practices to engage and empower citizens/users in designing solutions that they see of benefit, in terms of sustainable, desirable and ethically acceptable outcomes. Business managers and entrepreneurs that are developing new technologies can identify any significant public impacts – good, bad, or neutral – and alter the innovation design,

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⁴ "Transformative technologies" have the potential to alter the very societal values that organizations engaged in research and innovation contribute to, since they might transform existing modes of production, communication, and social organization, and might change companies' relations with the users of their products, with suppliers, or with other stakeholders. Such transformative technologies can make important if not indispensable contributions to a sustainable society and to economic competitiveness. Examples are synthetic biology and its impact on the bio-economy by reorganizing the chemical industry, and the Internet of Things, which can transform everything from the personalization of health care and energy use, to data analytics for evidenced-based investment in transportation, energy distribution, and manufacturing processes.

and they will benefit from consulting those likely affected by their creations to minimise risks in advance, identify alternative paths forward, and build support.

More broadly, envisioning a "responsible" innovation means for all societal actors involved to consider - beyond better economic performance - the dimensions of sustainability, societal desirability and ethical acceptability in creating a shared value:

- Sustainability: do not harm the next generation (children < 10 years old). Research and
 innovation should meet the needs of the present without compromising the ability of future
 generations to meet their own needs. It has been operationalized in the SDGs 2030 Agenda.
- Societal desirability: do good for the present and next generations. This requires
 research and innovation to have the potential to benefit humankind as a whole, and also to
 address the research and innovation needs of marginalized and low-income populations. It
 has been partially operationalised with some social SDGs.
- Ethical acceptability: reflect on the moral consequences of your actions. This is governed by legal instruments and deontology guidelines (e.g. ethical requirements in medical research). However, a broader concept of "acceptability" should include the moral dimensions of empathy and compassion, social justice and resilience to change (i.e. the capacity of adapting) associated with any choice and action.

Engaging a community to develop responsible innovation visions, strategies and practices requires to:

- Build a model for participatory foresight and promotion of responsible innovation.
- Map the stakeholders and design a network to support the responsible innovation mission and community of practice.
- Think about circular and other emerging economic models, in order to make growth through innovation more sustainable over the long term and responding to societal needs.
- Understand that it is possible to engage with responsible innovation in a simple way: asking
 whether an innovation will be 'good and fair' or "harming and unfair" can reveal a lot of issues
 for discussion.
- While looking ahead to the medium to long term possible scenarios, come to conclusions and responsible solutions that are of immediate, practical use to member companies, governments/regulators and individuals, and increase their resilience against future uncertainty.
- Ensure that all societal actors have a voice in emerging policymaking and regulatory initiatives.

•	Remind innovatir	that	there	are	risks	involved	in	everything	we	do,	including	risks	in	not



























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