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

D2.1 Short Report on Forum 1

Version 1.5

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1- INTRODUCTION

The Co-Change platform (WP2) organizes a series of four interconnected gatherings, called Forums, to support mutual learning and exchange between the Co-Change Labs, their ecosystems and Advisory and Sounding Boards.

The first Co-Change Forum took place on 23 and 24 September 2020 and was hosted virtually by consortium partner AIT from Vienna, Austria. This deliverable "Short Report on Forum 1" aims at documenting the design, implementation and results of this first gathering – with a view to guiding vital next development steps by the Labs and the project in general. The report first presents necessary background (chapter 1-objectives, agenda, preparation, participation) and highlights of the keynote speech (chapter 2). It then outlines the results of visioning (chapter 3) and road-mapping by Labs (chapter 4). It concludes with take-home messages for the journey ahead towards Forum 2 (chapter 5).

Objectives

The objectives of this virtual Forum 1 were:

- A Co-Change Vision 2035 based on shared themes is emerging.
- Each Co-Change Lab has defined its goals and a roadmap as guideline for next implementation steps.
- The Co-Change platform by connecting Labs with each other and the Advisory and Sounding Boards. The Co-Change Forum is implemented as a learning space for all Co-Change Labs. A trust-based cooperation and learning culture among all participants has been established.
- The Co-Change Platform is launched by connecting Labs with each other and with the Advisory and Sounding Boards.

It was initially planned to deliver the first Forum in Helsinki hosted by partner VTT as physical gathering. Due to the COVID-19 pandemic several travel restrictions were imposed during summer 2020 all over Europe and beyond. These restrictions forced the Co-Change team to look for new and alternative approaches to deliver the Forum. In several iterations, a new design based on two virtual half-day gatherings was developed and approved by the Project Management Committee (PMC) in August. The final design of Forum 1 is reflected in the following agenda

Agenda

	AGENDA Day 1 - 23 September 2020	
08:30	*Technical onboarding*	
09:00	**Welcome and Setting the Scene** Objectives & Roles in Forum 1 Orientation: Who is here today	Plenary
09:40	**Keynote "RRI: why, what and how"** by Mika Nieminen	Plenary

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10:15	**THEMES - Visioning Life in 2035	part 1** Autonomous systems & Vehicles, Biogenetics & Agriculture; Digital Humanism; Artificial Intelligence	Break-out
11:25	*Break*	
11:40	**THEMES - Visioning Life in 2035	part 2** Story telling „Scenes in the life of a person Key Messages for building the Co-Change Vision 2035	Plenary
12.40	**Conclusions and Outlook on Day** 2	Plenary
12.50	**Feedback on Day 1**	Plenary
13.00	*End of Day 1*	Plenary

	AGENDA Day 2 - 24 September 2020	
08:30	*Technical onboarding*	
09:00	**Welcome and Setting the Scene** Introduction to Day 2 Setting up the 6 Lab Groups	Plenary
09:10	**Building LAB Roadmaps** 6 concurrent sessions with Labs Milestones 2020 – 2035, goals and actors per mile, quick wins	Break-out
10:15	*Break*	
11:25	**LAB Roadmaps – Timelines & Quick Wins	Part 1** Presentation of 3 roadmaps with focus on quick wins Feedback by Boards	Plenary
11:40	Break	15 min	
12:40	**LAB Roadmaps – Timelines & Quick Wins	Part 2** Presentation of 3 roadmaps with focus on quick wins Feedback by Boards	Plenary
12:50	**Summary, Conclusions and Next Steps** Attractive starting points for Labs Change coalition partners for Lab success	Plenary
13:00	Feedback to Day 2	Plenary
13:15	*End of Forum 1*	Plenary

Preparation

The first Co-Change Forum was held on Wednesday, 23 September 2020 and Thursday, 24 September 2020 from 08:30 CET to 13:00 CET and was hosted by consortium partner AIT on the digital platform Hopin from Vienna, Austria.

A format of 4 hours workshop on each day was set up for the total of 50 participants. It was decided to condense the full-day programme into half-days for facilitating the attention of participants in a virtual environment. To facilitate interaction and mutual exchange as well as advancing the Lab work participants were frequently invited into small groups to support active communication on Lab activities and in Lab-specific settings (including ecosystem partners).

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All participants received a **digital meeting package** with relevant information prior the workshop such as the agenda, guidelines and working materials as well as the participant list for the Forum (see Annex). With registration, participants also expressed their informed consent for data handling during the event following General Data Protection Regulation Guidelines.

The moderators of the break-out sessions on visioning and road-mapping participated in a dedicated **online briefing session** on Tuesday, 22 September 2020.

Participation

The primary target and stakeholder group of Forum 1 were the Co-Change Labs:

Topic	Co-Change partner	Abbreviation
Research Alliance for Autonomous Systems - Creating standardized practices and defining core values for new technology	VTT Technical Research Centre of Finland, Research Alliance for Autonomous Systems	VTT / RAAS
Digital Humanism - Co-evaluating project proposals by medical and ethical experts	Wiener Wissenschafts- und Technologiefonds	WWTF
Machine Learning - Establishing an ethics advisory service for machine/deep learning	Austrian Institute of Technology	AIT
RRIzing- Establishing RRI practices & guidelines	University of Novi Sad, Faculty of Agriculture	PFNS
Establishing RRI consultancy service	Tecnalia	Tecnalia
Developing standardized RRI evaluation criteria	Council of Tampere Region (Pirkanmaan Liitto)	PL
Including moral values in standard setting	Technical University Delft, Dutch standardization organization	TUD / NEN
Developing sustainable start-up opportunities	Technical University Delft, Delft Centre for Entrepreneurship	TUD / DCE

DEC and NEN were not active in this Forum and will proceed after the Forum.

The Labs were supported by the Co-Change Boards:

Sounding Board	Advisory Board
Zoltán Bajmócy (attending day 2)	Charlotte Alber
Erich Griessler	Erik Fisher
Joram Nauta	Justine Lacey
Heikki Saxen	Eric Klemp
Philine Warnke (not attending)	Barbara Prainsack (not attending)

The Forum 1 Team of AIT was supported by communication partner ESSRG.

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2- KEYNOTE "RRI: WHY, WHAT AND HOW?"

The keynote by Mika Nieminen (VTT) delivered a compact outline of the state-of-play in responsible research and innovation (RRI) in science, policy and practice. He also shared first insights gathered on drivers, barriers and enablers as well as windows of opportunity for RRI gathered within the first working months of the Co-Change project. The main messages are described below, the slides included in the Annex.

1) RRI - Why?
Modern science and technology are success stories. Our world and our lifestyle are based on it. What we know about ourselves is based on it. We all know that there are also side-effects of science and misuse, but we tend to see it as self-correcting. There are also a lot of unforeseen bad effects (e.g. plastic). We have to think about the impacts science and technology will have in the future.

Science or technology is neither good, nor bad, nor is it neutral. For what we use technology is not predestined. There is no natural law, no deterministic effect of technology in my view (found in studies, too).

We are talking about impacts on society and on the environment. Acceptability and desirability are central concepts here. It increases the social effectiveness and good business of inventions. Sometimes whitewashing is mentioned when talking about business. But companies that are actually paying attention to ethical conduct and engage with society do better than those who don't. Those who incorporate some kind of meaningfulness perform better in the stock market (see slides). In customer surveys it was shown that customers expect companies to solve social problems.

2) RRI - What?
Discussions about technology impacts have been going hand in hand with the development of science historically. (e.g. Frankenstein, discussions about atomic bomb after WW2). Unintended impacts on society have been discussed for a long time. In the 1960s the approach of Technology Assessment was developed in the USA. Today we have many different approaches like bioethics, technology ethics, AI ethics, ethical technology design, and Ethical, Legal, and Social Aspects (ELSA) research of genomics and nano-technology research. In the European context RRI has been an important concept in the past years.

3) RRI - How?
RRI is a complicated, systemic approach to society. (see slides for visualization)
Lots of interdependencies and loops structure the environment in which RRI is implemented. It is not only about Research & Innovation (R&I) but also about leadership, management practices, marketing, monitoring, and strategy. RRI should be integrated in companies on the strategy level. This is idealistic but necessary to take this into account to achieve change.

The stocktaking exercise conducted at the beginning of the Co-Change project gave new ideas on how to implement responsible research and innovation (RRI):

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Two common general drivers were identified for the uptake of RRI:
- Addressing complex and systemic and societal challenges
- Inclusion of stakeholders to accelerate research and innovation & implementation

Several organizational factors promote the uptake of RRI:
- Contextualization: Taking into consideration the context of the organization, there is no one size fits all RRI
- Understanding of the network relationships and dependencies of organizations in their ecosystem: collaborators, stakeholders and rivals
- The leadership commitment and its support
- Open communication and dissemination of RRI
- A trust-creating, capacity-building and experimentation-supporting environment
- Theoretical/empirical studies framework of organizational theory
- Anticipation and measurement of impacts of RRI support its uptake, KPIs, integrated assessment frameworks (recognizing that qualitative changes are not easy to quantify)

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3- VISIONING LIFE IN 2035

The first step in the Co-Change to co-create images of life in futures to which Co-Change labs may contribute with their institutional innovations. The process started with four theme groups linked to the topics of the Co-Change Labs: Biogenetics and Agriculture, Autonomous Systems and Vehicles, Digital Humanism, and Artificial Intelligence (AI). The AI group described the worst-case scenario (dystopia), assuming that everything will have developed far worse than expected today. The other groups focused on best-case scenarios (ideal, visionary), assuming that everything will have turned out much better than expected. Both dystopic and visionary scenarios were set in 2035.

Every participant brought a fictional scenario (picture, text) and shared an ideal or disaster situation in 2035. Dedicated note-takers collected each individual 'vision statement' with a view to (a) extract key messages for the Co-Change 2035 vision, and (b) translate them into objectives to guide the Lab roadmapping on the following day. The group then selected a fictional character ('persona') with distinct social context (friends, colleagues, family members) and described three scenes (morning, noon, evening) of a typical (fictional) day in 2035 ('story board').

The visionary and dystopic scenarios for life in 2035 were then depicted in storyboards and presented in the plenary. In the next chapter, personas and storyboards are described for each theme, complemented with resonance by the Forum participants.

3.2 Life in 2035 - Artificial Intelligence

Storyboard and Persona

It is 2035, it is very hot in Spain. It is like the Sahara now and not very nice to be a farmer there. Our persona studied bioengineering. He is a born farmer. His parents had a family farm under different circumstances, has been studying in Madrid. The farm is rented out to amazon, with a chip he can steer drones in the farming environment.

A typical day in the life in 2035

Morning: Our person first gets a small electronic shock to wake up. It gives him a social media feed. The day is pre-planned. He can lie in bed for this.

Noon: He is in permanent home office. It is so hot, that they cannot go out. Farming happens underground. There is a need of lots of water and lack of energy. You have to rent land from Amazon. He is controlled by a chip in the cortex. It controls him and his emotions.

Evening: The chip allows him to go to Madrid via hyperloop. There he can only have leisure activities if he was 'good'. The partner might not be real. The hours of allowed sleep are also controlled depending on productivity.

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It is good that he has the chip as then is how he can leave the village. You can only be trusted if you have a chip. The chip is voluntary and there is a social scoring system. The parents get less pension because of not getting the chip.

Resonance

- There is data protection, government, climate change, technological dependency, lack of freedom, everything based on productivity, socially controlled, no importance of social relations, help of technology but based on productivity, no human relations left, no names for people.
- We really have to look after our humanity. Many people have this dystopic vision of the future, I do not consider this future very likely. But if we don't take care we could see such a development.
- The persona did not become very clear. He is struggling with technology and farming and he is not doing very well. In 2035 it will be difficult to be a farmer.
- People are already getting paranoid about microchips, this is dystopia already starting. We are afraid of technologies because we do not understand them.
- Climate change is advancing, we should take care of our environment. The joys of life and occupation will have a very different impact on our lives. Issues of ethics and responsibility came up. The scenario is not likely to happen in my perspective but is symbolic of misusing technologies. Data protection: In a highly technological environment that requires a lot of data exchange, data protection is important.
- Climate change in Spain was easy to imagine. Using technology for dealing with climate change is possible but less than ideal. Sounds like living on Mars.
- Such a harsh environment to live in that you are almost forced as an individual to adopt certain technologies.
- Rough environment and very artificial. It fits to our scene in Automotive. The social isolation of humans. Well, it is not really an isolation, but dealing with robots does not give personal contacts.

3.3 Life in 2035 - Biogenetics and Agriculture

STORYBOARD & PERSONA

Pedro, normal social environment, wife, 2 kids, neighbors. Quite a happy guy, some struggles in life.

A typical day in the life in 2035

In the **morning**, he wakes up and prepares breakfast with seaweed jam for his children. He is a seaweed farmer, seaweed jam is his newest product, but it doesn't have good acceptation. His kids don't like it.

At **noon**, he tries again to convince his children to eat his jam. Children sometimes go to school by bike, sometimes they have online classes (comes from Corona times). He often goes to the coast. He has placed sensors in his seaweed farm, tracks climate,

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water temperature. He swims in the sea, it's best moment of his day. He swims through his seaweed, observes it, touches it. While swimming he processes his emotions. He swims all year round but hates tourists. He keeps a real diary out of paper. Has also sells some seaweed clothing, as he is not very successful with the food products. He has a health issue and does an online health check with different doctors that check his data. They say he has cancer, but it can be solved in half an hour.

In the **evening**, he secretly eats ham in the cellar but tries to make his family eat his seaweed products. He has his own garden, but not much grows, he is against shopping, so he feeds more seaweed to his family. He is an ambitious guy that he knows he will someday find his mission, but he is still searching for the right product or right people. His neighbor is trying to create innovative products in AI, they often exchange ideas.

Resonance

- In this visionary scenario, technology helps with any issues you encounter in your daily work. Technology has advanced so much that an average rural farmer can use the technology, understand it and modify it for his/her own needs. Much more assistance by technology than now. AI is widely used, but also broadly understood by many people.
- Agriculture and food production is an area where there already exist concepts and visons about sustainability & responsibility. And these different visions often contradict, which results in an ongoing political struggle.
- Not a utopia for me. Usage of technology has been helpful for humankind, solving medical problems, development of ICT. Innovation in the foodstuff sector. Technology embedded with social relations. Neighbors and friends are supportive. The farmer is an entrepreneur and innovator, technology is helpful.
- This technology can help small as well as big farmers, upcoming trend. Efficiency is driving these innovations. You can do good as well as bad with technology.
- All the seaweed makes it a bit dystopic, for instance that he has to hide eating the ham. People are still struggling in the story. Hopefully, things will be more resolved in the future.
- We are still human. Here the humanity is preserved. The struggle of reality is that you can't get it perfect.

3.4 Life in 2035 - Automated Systems & Vehicles

STORYBOARD & PERSONA

The person is a 58-years-old female jet pilot and defense specialist. She has a girlfriend, ex-husband and a large social circle. Data protection is important to her. She is very international and open-minded and values privacy. The girlfriend is Chinese and in private industry. They have different opinions.

Resonance:

- Art and music as a central part of being human.
- Very international persona, very flexible life due to digitalization. Art, travelling, creativity. Doing things more freely without so many physical restrictions. Is the person happy? Is the lifestyle sustainable? Super-international, no physical boundaries.
- There is a missing of human social contact and wide international spread, but no local relationships, I think here everything is digital. Not sure if person is happy.
- The person might know what happiness is, because they were born in a age without digitalization. No feedback about personal life.
- No animals, no nature.
- Smart city environment, highly digitalized, highly international. Certain constraints: There will still be pandemics, so people avoid personal contacts in big cities. In the countryside life can be different. Happiness issue: Is a virtual girlfriend in China great?
- Different perspectives on what is happiness? How should relationships look like in the future?

3.5 Life in 2035 - Digital Humanism

The group experienced difficulties regarding the term "digital humanism" and agreed on putting the person in the center of digitalization. Yet there were different views on what digital humanism is: no digitalization? a lot of digitalization?

Persona: Deborah, female, widow, 3 kids (one son, two daughters) and two grandchildren. lives in a village, very successful CEO in the RRI field.

Resonance

Interesting story, maybe not radical enough.

3.6 Take-home messages

The exercise was leading to surprisingly big questions: What defines us as humans? What makes us happy? What is important for us? What is the role of economics, society, technology? Who rules, who leads, who follows?

Current societal challenges (climate change, COVID-19 pandemic) are still impacting our lives in the future. Across the different visions there is a wide variety of possibilities (technology dependency, technological assistance, etc.). The local is quite important.

The Boards observed that leaving the present as the ideas were mostly based on the know-how we already have. Jumping further into the future is a challenge and the groups have not moved far enough. When one looks 20 years back: Who would have thought of an iPhone? They encouraged the Labs to think radically.

4- ROADMAPPING

The aim of this session was to develop roadmaps for each of the Labs. For this purpose, each Lab revisited the vision statements created in day 1 and reframed them as long-term objectives for 2050. Starting from current (2020) challenges, they defined the miles for the years 2023 – 2030 – 2035 with concrete objectives. For each objective, they then defined actors and activities with a focus on the critical first mile - from the present until 2023.

Each Lab session consisted of the Lab team and invited ecosystem partners. The Lab moderator guided and facilitated the road-mapping exercise with the support of a note-taker. Advisory and sounding Board members could either join one session or visit different sessions for a more holistic impression.

4.1 Roadmap of the RRIzing Lab (PFNS)

LAB DESCRIPTION

The RRIzing lab at Faculty of Agriculture (PFNS) is co-created with Institute of Food Technology (FINS) and Faculty of Technology (FTN), all three being part of University of Novi Sad. The lab aims to introduce RRI principles with an emphasis on science education, gender equality and ethics at the PFNS i.e. to actively co-create change and improve science education, gender equality and ethics in accordance with personal beliefs and the beliefs of colleagues from the ecosystem, under the guidance of experienced project partners. Co-created changes at PFNS will serve as a showcase and should trigger RRIzing process beyond PFNS at University level. Science education aims to identify possible knowledge gaps and misunderstandings ("science skepticism" topics) between science community and public in selected fields (climate change, food, agriculture), use new educational programs and learning methods (distance learning) for more efficient science communication to education, as well as to initiate communication with Citizen science community in order to introduce climate change topic in the Science education framework. The focus of gender equality is in using different techniques to detect present inequalities and in pursuing possible solutions for creating a more balanced ecosystem. Ethics activities are directed towards analysis and improvement of the present Code of academic integrity at PFNS. The key actors of the RRIzing lab are enthusiastic individuals (academic staff) with a motive to be active agents of the proposed changes. (Retrieved from: cochangeproject.eu [13.10.2020])

Vision statements
- Science & technology are in the hands of common people; reduced fertilization and pesticide use.
- High–tech agriculture is accessible and affordable to everyone everywhere. No differences among people, everybody producing enough healthy food in eco-friendly manner.
- High-tech in agriculture is accessible to every average farmer – he/she can use it, maintain and adapt to their circumstances.
- Sustainability is a reality we use and appreciate every square meter of land.

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- Lessons are harvested from Corona – people spread more on Earth, living in villages, connecting better with nature, organize new generations in this lifestyle.
- With low level of technology employed there is enough healthy and tasty food grown on healthy soils. The food is regionally supplied, jobs and payment are fair. There is fair treatment of animals, no education program towards healthy food.
- In 2035 gene technology, especially genome editing, plays a more central role on many frontiers from medicine to agriculture and it can be used in societies openly, fairly and eco-friendly.
- The connection of biotechnology and ecologically sustainable principles has transformed protein production in the food chain. This is a value-driven transformation addressing the production of nutritious and accessible protein options under a changing climate.
- Land belongs to everybody. Fair share of production. No marketized way of doing agriculture.
- Scientific knowledge production for agriculture will be accessible and open to all farmers and other social actors interested, particularly those ones who currently experience disadvantages in terms of social inclusion and access to relevant knowledge.
- Scientific knowledge production for agriculture will assist farmers and citizens to understand, be able to use, adapt and improve technologies in a way that puts them in control of agricultural technology development.
- Scientific knowledge production for agriculture will include and promote values of caring for the Earth (connection to nature) and strengthening community sharing and fairness in the whole food system.

FEEDBACK BY SOUNDING BOARD AND ADVISORY BOARDS

- How do you involve the consumers in your vision? Consumers are central in the food sector.
- Knowledge creation and availability: How will you transfer the knowledge to your farmers and how will you not only put in knowledge put also get knowledge out?
- How to prepare for the unexpected? Many things come together in this area (climate change, new technology, changing customer tastes and values).
- Do not forget about the consumers, especially about their concerns.
- Farmers need basic skills but also some very advanced skills.
- Keep the unexpected and keep the Maslow pyramid.
- Use transformative KPIs in the supply chain as the centerpiece and make it resilient against disruption.

4.2 Roadmap of the Research Alliance for Autonomous Systems (RAAS/VTT)

LAB DESCRIPTION

The RAAS-VTT Lab aims to address several socio-ethical challenges entailed in human-technology interactions in general and in the design of autonomous systems' technologies in particular to create standardised practices for responsible research conduct. Research Alliance for Autonomous Systems (RAAS) is a collaborative

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research ecosystem building on expertise from major Finnish universities, research institutes, and industry. RAAS works in multiple domains of autonomous systems, currently focusing on land transport, maritime, drone systems, and mobile work machines. Autonomous systems carry numerous and deep-going societal impacts, like employment and new qualifications when artificial intelligence-aided systems are implemented, that are also entangled with various ethical questions. (Retrieved from: cochangeproject.eu [13.10.2020])

TIMELINE

2035: Vision
HELSINKI - THE MOST ARTIFICIAL INTELLIGENT CITY IN THE WORLD
Responsibility is inherently integrated in the development of autonomous systems in different domains so that these solutions are accepted and desired (e.g. user can select whether to use or not) by their users.

2030: Mile 3 - Objectives
- Simulation solutions for validating safety have adopted wider societal aspects in addition to technical safety
- City areas act as transformation labs for autonomous systems.
- Offer eco-systemic professional and organisational training with inherent focus on holistic ethical values in autonomous systems.

2025: Mile 2 - Objectives
- Develop real time simulation models that engage social values - integration of technical safety and societal trust to autonomous systems.
- Increase various autonomous system's pilot & test facilities in cities to improve citizens' trust.
- Design RAAS's professional education and training packages from socio-technical perspective that addresses the future capabilities
- Increase organisational capabilities to adopt ethics of AI

2023: Mile 1 - Quick Wins
- Create a value proposition with ecosystem partners - what is safety in the different domains?
- Add engagement approach in the process of developing simulation models to improve understanding of ethics
- Systematically map envisaged changes in future jobs (in maritime and road traffic) - how professions will change and what are future capabilities?
- Increase training in ethics, both societal values and ethics of technology
- Evaluate AI ethics' competences in the central RAAS ecosystem organisations

2020: Challenges Today
- To develop simulation solutions to verify and validate safety that are based on communal engagement and eco-systemic practices.
- To develop interactive professional training and re-training in autonomous systems
- To better master the systemic change created by increased adoption of autonomous systems.

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FEEDBACK BY ADVISORY AND SOUNDING BOARD MEMBERS

- We often jump to technological solutions, but we should ask ourselves: what are our basic needs and our visions? Are there other solutions to the problem that the autonomous system is trying to solve? How does it relate to bigger problems like global inequality and unsustainability? We have to question our imaginary/paradigm of fast and easy mobility. Maybe some low-technology solutions can be more feasible.
- 2035 will come earlier than we expect, change is faster than we expect. The idea of autonomous systems is about replacing human labor, but what is the broader objective? What is the benefit of the solution? What are humans not going to be doing anymore and what is the place of the person then in such a system?
- Broad democratic participation is needed, it should not only be technocratic professionals executing. These things are technocratic by nature, but people need to accept them and democratic inclusion.
- There are two different approaches to RRI (top-down: RRI planning with strategy or bottom-up: infusing RRI principles in the social imaginary)
- What is the focus for the intervention for the RRI activities? It could be safety, which is already on the radar. Will you add more concepts to safety or will you entirely reframe safety?
- Technical simulations: How can they be brought to have more aspects (citizen experience, trust, etc.) included?
- There is no way to decide, if it will be autonomous or not. Certain things will be autonomous.
- How do you model safety scientifically? Difficult but important and exciting.

4.3 Roadmap of the Developing Standardized RRI Criteria Lab (PL)

LAB DESCRIPTION

The Council of Tampere Region Change Lab, operating in an organisation that is a hub for innovative regional development and cooperation of multiple actors in the region, builds on previous experience to integrate responsibility in research funding while aims for broadening this integration into innovation policy. (Retrieved from: cochangeproject.eu [13.10.2020])

TIMELINE

2035: Vision
Integration of responsibility in the regional Innovation ecosystem is wide and has become a new normal.

2030: Mile 3 - Objectives
Responsibility is recognized also in other Finnish regions as something that brings value for innovation projects. The monitoring tool helps to see the change in socio-economic environment and the wellbeing of the society.

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2025: Mile 2 - Objectives
The regional strategy with stronger social and responsible perspectives is guiding the ERDF and national funding. More responsible innovation projects have better impact to the society.

2023: Mile 1 - Quick Wins
During Co-Change Lab we map the responsible innovation actions in the Tampere Region. We visualize what is going on and collect the actors together to share perspectives of RRI work. We will affect the regional strategy work by keeping the RRI issues in discussions. The Council will develop a monitoring tool of socio-economic indicators to show a wide picture of how things are in the region.

2020: Challenges Today
The work done with RRI evaluation criteria need to be scaled up now. The change has been started in Tampere Region by teaching innovation actors to think about the RRI issues but now we need the next step to push the mental change.

FEEDBACK BY ADVISORY AND SOUNDING BOARD MEMBERS

- "Very clear, good luck!"; "Totally happy"
- Struggle to balance between different aspects, especially if metrics are used.
- What is the service model? Is there a revenue flowing back to your organization? What is the model for longevity?
- Changing the mindset can be beneficial: What would happen if we use other criteria? Experimenting can be helpful to get the right criteria and the right indicators. You should also limit the indicators and use positive ones that can be monitored.
- Very important issue. Is the ambition to just provide input on social responsibility in decision making or also to advocate?

4.4 Roadmap of the Digital Humanism Lab (WWTF)

LAB DESCRIPTION

For WWTF, the main interface for including RRI principles is its "Funding Guidelines" which specifies its funding instruments, funding criteria and selection procedures. As the funding guidelines are due for an update (last update was in 2011), this provides the opportunity to take into consideration RRI principles and their potential inclusion at the end of this process. The funding guidelines are a crucial means to define what RRI aspects like gender or open science play a role in how our funding instruments are set up, who is eligible to funding and may be part of the research team (e.g. representatives of NGOs), how we select proposals (open science, open peer review) and what criteria for funding must be fulfilled (open access, open data, research ethics …). The Co-Change lab allows for the discussion of, experimentation with and implementation of RRI principles and practices in the funding guidelines and WWTF procedures. The Co-Change Labs will be one among various discussion forums in this context (with WWTF Boards fully in charge about the decisions to be taken). (Retrieved from: cochangeproject.eu [13.10.2020])

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TIMELINE

2023: Mile 1 - Quick Wins
How can our funding guidelines be more open to responsible projects?

The focus of the WWTF Co-Change Lab will be on the RRI aspects of open access & open science and citizen engagement (i.e. civil society engagement).

For open peer review, the first step suggested is to that some evaluation reports should be published with the funding project. This information is often very invisible and with this approach everyone can read what the criticism of the project was. The next step will be with our boards. Another discussion point is open access where we still allow for hybrid open access.

The open data management plan is also a strong point of discussion. Many funders require such plans, but they do not know how to evaluate it. The ideas is that instead of text boxes, data should be made accessible during and after research.

Citizen engagement is not an open discussion with development of funding. The intent is to include institutions from civil society and also engage with academic field: What are the hurdles they encounter when they apply for projects?

2020: Challenges Today
Given the broader movement in open science we need to consider more aspects of open science in our funding practices, instruments and procedures. Over the last years, WWTF's funding priority slightly shifted from "science only" to societal challenges and therefore, new (for WWTF) stakeholder groups appeared in WWTF's funding calls, both as part of the project team as well as objects of research. With the new established thematic priority of Environmental Systems Research, we saw an increase of government actors (City of Vienna) as well as civil society organizations, that participated in the funded projects. This trend will be more relevant in the new topic of Digital Humanism (call open and running 2020). This call is taking place in the area of Information and Communication Technologies which over the last ten years focused primarily on Computer Sciences and academics in that domain. Digital Humanism broadens the issue of digitalization and takes into account societal dimensions and actors.

FEEDBACK BY ADVISORY AND SOUNDING BOARD MEMBERS

- Discussion about Open Access is familiar. We are seeing a change and a trend, but it is still difficult. You can expand Open Publishing to Open Data and Open Algorithms.
- Information is something we should spread and we should have a social impact. You have to get the right information, sort it and make our work available, broadcast it. We have to make our work attractive to get read more and find the right target audience.
- Open Data: We have seen the structure of ethics clearances change. There might be some shifts in the organizations that you are tracking.

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- It is difficult to reach NGOs (civil society) so that they understand our selection process and criteria.
- Sometimes the ambition of RRI can be radical: The question can be how to share the ownership? What are the desirable outcomes? Who benefits from the results? We can go beyond providing Open Access: How can it be shared among the stakeholders.
- A connection with an RRI project (Erich Griessler) could be useful. The question of ownership is important.
- Citizens should be involved in deciding what is being funded. Research funding decisions are central.

4.5 Roadmap of the RRI Consulting Service Lab (Tecnalia)

LAB DESCRIPTION

The Tecnalia Change Lab is implemented by the horizontal team that provides internal RRI consultancy services to all departments via capacity building workshops, coaching and training, science cafés, etc. to tackle the societal challenges each technology-focused department of Tecnalia is facing. (Retrieved from: cochangeproject.eu [13.10.2020]).

TIMELINE

2035: Vision
Citizen collaboration is so strong that citizens engage in the management level of Tecnalia and even have a vote there. A school of sustainability exists with talks and exchange opportunities.

2023: Mile 1 - Quick Wins

We will use several approaches to reach society as a whole:
- Open a coffeeshop in Tecnalia where citizens come and have coffee. Citizens have coffee with researchers and talk about topics of interest.
- Organize a maker workshop where hackers/workers are in contact with related industry. Researchers and makers can do something together and exchange each other.
- Allow Tecnalia scientists to use 10 % of their time to do what they want.
- Create a data-base of active citizens: looking for people who engage.

2020: Challenges and Situation Today
- We start with what has been done and what has failed.
- We will work in a democratic form in the Lab (Tecnalia is very technocratic).
- We engage people from different areas who really are engaged.
- We have a vision for a Lab with continuous feedback.

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FEEDBACK BY ADVISORY AND SOUNDING BOARD MEMBERS

- Get the right information to the right person. Get the right people in the right rooms/groups. Spread the right information in the right channels. Connect!
- Are you looking for setting up market-research groups? You can build a relationship to the stakeholder base.
- Stakeholder engagement in NewHoRRIzon (project): Try to bring local and specialized knowledge in; we have to reach those whose minds we want to change.
- Create buy-ins (membership, cooperative, maybe a diploma).
- Don't underestimate the importance of the practical implementation. You have to be aware of the outliers in both directions: vulnerable groups often unable to articulate their interest, especially in the short timeframe of most projects; and influential groups who have the power not to cooperate with us. Be aware of those you leave out, make the decision explicit and transparent.
- Make research funders aware of what you are doing.
- Mobile apps can be helpful to reach out to people because they are interactive. It is hard to find good channels to approach people.

4.6 Roadmap of the Machine Learning Lab (AIT)

LAB DESCRIPTION

The development and application of machine learning and algorithmic decision-making advances opportunities, but also challenges. The analysis of documents through natural language processing, camera data by facial recognition software, smartphone data by mobility analytics et cetera raises critical questions of data protection, privacy, ethics and even democratic governance. The AIT Co-Change Lab focuses on these challenges by better understanding the research practices involved in the development of machine learning. We engage with scientists and stakeholders in thinking about these critical questions. We raise awareness on challenges and change practices in research funding and performing organisations through workshops, conferences and research projects. (Retrieved from: cochangeproject.eu [13.10.2020])

TIMELINE

2035: Vision
We will have sustainability. Emotions of humans will not be vanished. There are NGOs and regulators. There is privacy and self-determination. Society will maintain control the development in the broader level.

Objectives for 2035:
Re-distribute power, broad engagement. Societal incorporation. There is discussion on all parts of AI and they understand how the algorithms work. There are different means. Recommendations and actions with consequences. Companies develop algorithms. Ethics councils have teeth and can block activities.

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2023: Mile 1 - Quick Wins

Objective: Empower citizens so they have a platform, break monopolies of companies. The Ethics Council should take concrete actions. Ethics council have some teeth. Another actor is the Data Protection Agency (DPA). Broaden the scope. Another actor: citizens, where we can have platforms, empowering transparency. Individual motivated people can also have impact.

FEEDBACK FROM SOUNDING AND ADVISORY BOARDS

- Structured, clear and focused.
- Not much in the presentation about the technological vision about AI. (more social and political vision)
- In which jurisdiction should it apply? What happens when AI crosses a boundary (geographical, cultural, border)? What would it take to build a critical mass?
- Ethics Council: How will it be set up? Who is in it? How can they take action?
- Crowd/Citizens: We also need to think about the education sector. Knowing how to code doesn't necessarily mean you actually understand the algorithm.
- What is the big vision and how can we make it work in 10 or 15 years?
- Radical measures like breaking monopolies are necessary, cannot be avoided.
- Empowering citizens: Is it really necessary for the public to understand how these technologies operate? They can never catch up with the fast development, but they should still discuss the social content.
- Depending on your starting point (government? Company?) you can start building your roadmap (creating trust between the actors).

5- The way ahead

Co-Change partners, innovation ecosystem actors and stakeholders as well as Advisory and Sounding Board members met in Forum 1 to co-create possible future scenarios visions for 2035 in the context of pressing praxis fields of the Co-Change labs.

In terms of collective vision for the Co-Change endeavour, several key insights emerged. The multiple societal challenges (energy, food, security) and crises (climate, COVID-19 pandemic) unveil the vulnerabilities of our current research and innovation systems. Changing the dominant research and innovation system paradigms and reorienting the science-society relations is called for. Co-Change Labs seek entry points and learning spaces for systemic solutions to the multiple and interrelated crises and build on the innovations in their local contexts. Possible future scenarios in four praxis fields (digital humanism, AI, Biogenetics/Agritech, Autonomous Systems) are controversial. Despite the belief that technologies can help in addressing environmental harms and societal equity and will much improve people's everyday lives, participants feared that most of these smart technology-driven innovations are distinct from our real human needs.

The Co-Change Labs as the Forum's protagonists appreciated the Board members' contributions as very helpful and the preparatory work to present was considered helpful. The first versions of Lab roadmaps will benefit from a robustness check. In a

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next step, Lab moderators are invited to reformulate their roadmaps with their wider Lab teams.

Criticism on the implementation of Forum 1 has been raised with regard to clarity on objectives, structure, activities and quantity of tasks to be achieved in too little time. The next Forum will take suggestions (such as the wish for more discussion what our basic visions and actual needs are) into account and will be organized with an adapted setting in cooperation with partner VTT.

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6- ANNEX: Digital Forum Package

Slides of day 1

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Forum 1

Day 1, Sept 23

LINK to Hopin: https://hopin.to/events/co-change-forum-1

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01
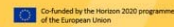
09:00 – 09:10

10 min

Welcome & Setting the Scene

- PM: Peter Biegelbauer, Petra Wagner
- MOD: Doris Wilhelmer

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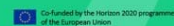
Objectives of Forum 1 |

Peter Biegelbauer

A Co-Change **Vision 2035** based on shared themes is available.

Each Co-Change **Lab** has defined goals and a **roadmap** as guideline for next implementation steps in hand.

The Co-Change **Forum** is implemented as learning space for all Co-Change Labs. A trust-based cooperation and learning culture among all participants has been established.

The Co-Change **Platform** is launched by connecting Labs with each other and with the Advisory and Sounding Boards.

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Who are we?

Peter Biegelbauer
Project Manager

Petra Wagner
Vice Project Mgr, WP2 Lead

Doris Wilhelmer
Facilitation

Nikolas Reschen
Tech Support &
AI-Lab Vice Lead

Edgar Subak
Documentation

Caroline Lackinger
Documentation

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Forum 1 | AGENDA | DAY (1)

08:30	AGENDA items	Format
09:00	**Welcome and Setting the Scene**	40 min *10' PM: Objectives & Roles; 30' Orientation: Who is here today..*	**Plenary**
09:40	**Keynote on RRI sensemaking** (Mika Nieminen)	35 min *20' Input: findings stocktaking; 15' open questions*	**Plenary**
10:15	**Co-Change THEMES - Visioning / part 1**	65 min *Setting up 4 groups (autonomous systems & vehicels, BioGenetics&Agriculture; Digital Humanism; Articifcial Intelligence); Visioning Groups (Scenes in life 2035);*	**Break-out**
11:25	**Break**	15 min	
11:40	**Co-Change THEMES - Visioning / part** 2	60 min *4 Story telling „Life 2035" & Key Messages or building CoChange Vision 2035*	**Plenary**
12.40	**Conclusions and Outlook on Day 2**	10 min *Baseline for one Pager (PM & AD Board Ph. Warnke)*	**Plenary**
12.50	**Feedback**	15 min	**Plenary** CO-CHANGE
13.00	**End of Day 1**	**Plenary**

09:10 – 09:40

02

How are you today ? → 2 min per group   30 min

- o 6 LAB Teams
  (Machine Learning, RRI Consulting, RRIzing, RRI Indicators, Digital Humanism, Autonomous Systems)
- o ESSRG – Communication
- o Sounding Board
- o Advirsory Board
- o Concpetualization & Facilitation

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03

09:40 – 10:15

KEYNOTE
Mika Nieminen

20 min input
15 min open questions

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RRI: WHY, WHAT HOW?

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1) WHY?

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Top collage
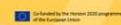
7 Inventions That Are Literally Saving Our Oceans

From a toothpaste in a pill to a giant Pac-Man device that eats up plastic, these innovations are saving our oceans from the plastic waste that plagues them.

Social Justice Research
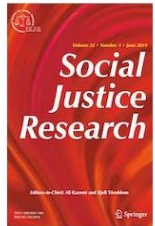
Contemporary democratic theory and governance

research Action

RESPONSIBLE AI AND ROBOTICS
AN ETHICAL FRAMEWORK

MATHEMATICS AND STATISTICS

CIRCULAR ECONOMY RESEARCH AND INNOVATION

Connecting economic & environmental gains

Top 10 innovations

1. Printing press
2. Light bulb
3. Airplane
4. Personal computer
5. Vaccines
6. Automobile
7. Clock
8. Telephone
9. Refrigeration
10. Camera

The Benefits of Digital Health

Digital health helps Canadians access better quality care, more efficiently. Electronic medical records help doctors and nurse practitioners manage patient difficulties, such as chronic diseases, more efficiently and effectively. Electronic health records provide a comprehensive, digital view of a patient's health history. This means duplicate tests are avoided because authorized clinicians can access past results of tests ordered by other health care providers. This ultimately leads to faster diagnosis and treatment.

3 key AI benefits for the future of work

Bottom collage

Most threats to humans come from science and technology, warns Hawking

Speaking ahead of his BBC Reith Lecture on black holes, Stephen Hawking discusses the danger inherent in progress and the chances of disaster on Earth

0:00 / 0:42

▲ Stephen Hawking on falling into a black hole - audio

The giant garbage vortex in the Pacific Ocean is over twice the size of Texas — here's what it looks like

Risks from Artificial Intelligence

Recent years have seen dramatic improvements in artificial intelligence, with even more dramatic improvements possible in the coming decades. In both the short-term and the long-term, AI should be developed in a safe and beneficial direction.

Social Media has become a Direct Threat to Democracy

Social Engineering

- Using knowledge of human behavior to elicit a defined response.
- Put simply...getting you to willingly do something for me which is likely not in your best interest.

Integrity

The five biggest threats to human existence

1. Nuclear war
2. Bioengineered pandemic
3. Superintelligence
4. Nanotechnology
5. Unknown unknowns

Ulrich Beck

Risk Society

Towards a New Modernity

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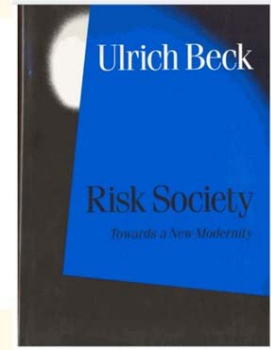
- The society should make use of science and technology so that it increases the quality of life and does not cause harm to anyone
- Melvin Kranzberg's (1986) first law of technology "Technology is neither good nor bad; nor is it neutral" Nor science and innovation are absolutely neutral arenas.
- Future is not predestined. Instead we are continuously designing our future. The decisions made today formulate our future in all levels.

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Responsible and ethical R&I:

- Strengthens **acceptability, desirability** of R&I; improves **social effectiveness**; brings in **new perspectives**
- Strengthens **dialogue on the desirable society** and its characters
- Changes people´s position in innovation process from users or consumers to **active political and moral subjects**

- **In innovation and business:**
  - Supports socially and environmentally sustainable products and services
  - Increases trust on products and their desirability and acceptability
  - Decreases business risks and undesirable impacts
  - Strengthens business and company brand

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History

- Continuous discussion on social impacts and risks of science goes *hand in hand with modern science* (e.g. Mary Shelley´s Frankenstein 1816 & debates on science-society relationships in pre 2nd WW UK & debates on atomic bomb after the war)

- More systematic attempts to assess risks of research and innovation emerge in the 1960s. In the U.S. was developed the idea of *Technology Assessment (TA)*: "sociotechnical research that discloses the benefits and risks to society emanating from alternative courses in the development of scientific and technological opportunities." (Wong 2014, 223)

- *Various other approaches like bioethics, technology ethics, AI ethics, ethical technology design, and Ethical, Legal, and Social Aspects (ELSA)* research of genomics and nanotechnology research

- While various forms of TA etc. continue to exist, during the recent decade more visibility has gained Responsible Research and Innovation (RRI)

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RRI?

- Various definitions of RRI, but a number of common characteristics: e.g. focus on **social challenges, engagement of stakeholders, opening up of research and innovation to society, and risk avoidance** (Smallman 2018; Gurzawska 2017)

- For instance: "RRI is an **inclusive** approach to research and innovation (R&I), to ensure that societal actors **work together** during the whole research and innovation process. It aims to better align both the **process and outcomes of R&I with the values, needs and expectations** of European society." (European Commission, 2013)

- Owen & al. (2013) see that responsible innovation includes:

  - **Anticipation**: Analysis of the social, economic and environmental impacts of innovation activity

  - **Reflexivity:** Each actor should consider their own underlying motivations and purposes for participating in the innovation activity openly

  - **Inclusiveness:** Brings into the common discussion various stakeholder and citizen interests, values and perspectives.

  - **Responsiveness**: Learning and changing of target-setting and operative practices.

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RRI: WHY, WHAT HOW?

3) How?

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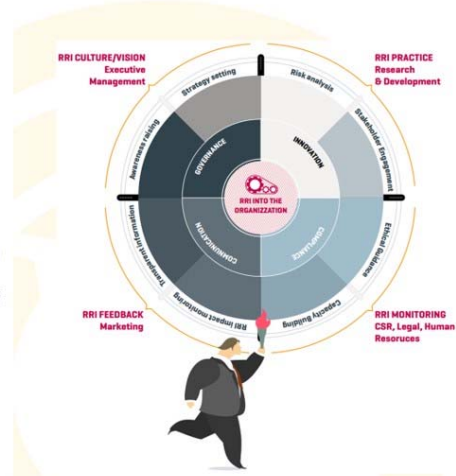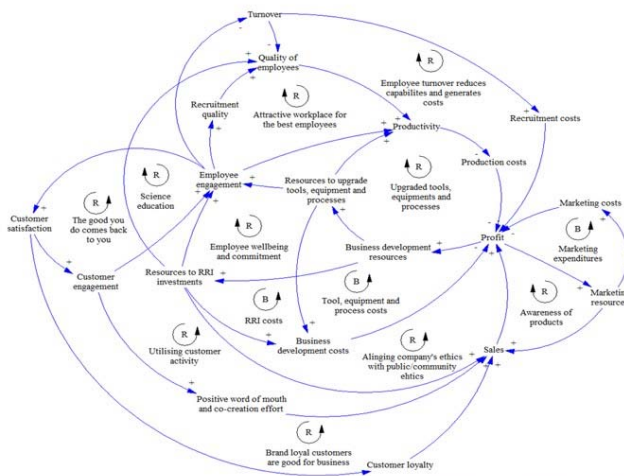
Source: Responsible Industry -project
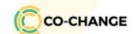
Co-Change Stocktaking

- Literature review of 29 papers, a stocktaking of 23 EU funded projects and the conclusions of 3 workshops of the coordinators of selected EU projects

- **Common general drivers of the uptake of RRI**:

    A) *Addressing complex and systemic societal challenges*

    B) *Inclusion of stakeholders to accelerate research and innovation & implementation*

-

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- **Organizational factors promoting uptake of RRI:**
- *Contextualization*: The implementation of RRI should be based on institutional self-understanding and should take into consideration the structures, rules, and values of the target organization/institutional field; The targets, processes and policies need to be adapted to fit the context
- *Understanding of the network relationships and dependencies* of organizations where it is embedded (ecosystem): Backgrounds, goals and the interest of collaborators, stakeholders and rivals matter
- *The leadership commitment* and its support are of high importance; Need to recognize and use power and appropriate governance mechanisms; at the same time important top-down and bottom-up approaches, appropriate resources and incentives
- Open communication and dissemination of RRI is important to increase awareness of RRI and avoid resistance: It is no plot, but transparent practice to help practitioners to improve the effectiveness and value of their work
- *A trust creating, capacity building and experimentation supporting environment* enhance uptake as adaptive and creative learning process
- *Theoretical/empirically studied framework* of organizational theory is usually necessity for a successful implementation; Change agents should understand organizational dynamics and processes from various perspectives to navigate in the "sea of change"
- *Anticipation and measurement of impacts* of RRI support its uptake; KPIs, integrated assessment frameworks etc. may make visible benefits and create incentives for the uptake

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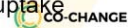
"I was dreaming in my dreaming
Of an aspect bright and fair
And my sleeping it was broken
But my dream it lingered near
In the form of shining valleys
Where the pure air recognized
And my senses newly opened
I awakened to the cry
That the people have the power
To redeem the work of fools
Upon the meek the graces shower
It' s decreed the people rule"

Patti Smith/Fred Smith "People have the power"

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04

Co-Change THEMES - Visioning

5 min Intro

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Visioning process on 4 CO-CHANGE Themes 2035

- ⬤ SCENES
  BioGenetics & Agriculture
- ⬤ SCENES
  Autonomous Systems & Vehicles
- ⬤ SCENES
  Digital Humanism
- ⬤ SCENES
  Artificial Intelligence

Best Case

Worst Case

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Roles in the VISIONING Groups

→ **MODERATOR**
  - ✓ Moderator inviting everybody for presentation
  - ✓ Time Keeper

→ **NOTE Taker:**
  - ✓ Taking notes in the template
    "Best Case"/ "Worst Case" Story Board

→ **Role of ESSRG**
  - ✓ ESSRG extracts the key messages for Co Change Labs one pager CO-CHANGE

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Breakout Sessions: overview on task

SCENES
BioGenetics & Agriculture

SCENES
Autonomous Systems & Vehicles

SCENES
Digital Humanism

SCENES
Artificial Intelligence

Focus of Groups

→ **Description of BEST CASE (Vision)**

Assuming that everything in your application field develops better than expected: What will be different in 2035?

→ **Description of WORST CASE (Dystopia)**

Assuming that everything in your application field develops far worse than expected: What will be the catastrophic situation in 2035?

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Breakout Sessions: overview on 2 steps

SCENES
BioGenetics & Agriculture

SCENES
Autonomous Systems & Vehicles

SCENES
Digital Humanism

SCENES
Artificial Intelligence
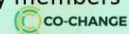
→ **Step 1: Whole "Theme Group"**

Please show your picture or scenario and tell us why you chose it!

- ✓ Max. 3 minutes per person
- ✓ Moderator inviting everybody
- ✓ Note taker collecting "vision statements"

→ **Step 2: Whole "Theme Group"**

Please select a "persona" and describe three scenes of a typical best case / worst case day of 2035!

- ✓ 5 min: "friends", "collogues", "family members"
- ✓ 8 minutes per scene

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STEP (1) → Whole „Thematic Group"

Please show your picture or scenario and tell us why you chose it!

- ✓ Max. 3 minutes per person
- ✓ Moderator inviting everybody
- ✓ Note taker collecting "vision statements"

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STEP (2) → Whole „Thematic Group"

→ **Step 2: Whole "Theme Group"**

Please select a "persona" and describe three scenes of a typical best case / worst case day of 2035!

- ✓ **5 min: Selection and definition of social contex**t:
  "friends", "colleagues", "family members"

- ✓ **8 min: description of SCENES**
  SCENE (1) morning (living / social context)
  SCENE (2) day (work, mobility)
  SCENE (3) evening (leisure time / social context)

- ✓ **Decision: Taking on roles:**
  Stage director
  "Persona" telling what happens during the day

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Persona → *Please select a persona…*

Persona (1)

15-yr old femal student plays percussion in her own band

1

Persona (2)

35-yr hospital director with child w/ special needs

2

Persona (3)

39yr biogenetics graduate and young farmer in Southern Spain

3

Persona (4)

63yr Hungarian diplomat

4

Persona (5)

58yr nurse & student from Serbia

5

Persona (6)

16yr Syrian student and start-up founder in second migrant generation

6

Persona (7)

87yr widowed environmental activist from Tampere

7

Persona (8)

53yr civil servant for urban development in Vienna

8

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Persona → *Please select a persona…*

Persona (9)

58yr jet pilot and drone defense specialist

9

Persona (10)

93yr smart grid expert from Delft

10

Persona (11)

35yr researcher and founder of network „New research and teaching in Europ"

11

Persona (12)

29yr female lawyer specializing in white-collar crime and human trafficking

12

Persona (13)

59 yr female CEO and delegate of business assocation on RRI in the Alpine-Adriatic Region

13

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05

10:15 – 11:25

Co-Change THEMES – Visioning

5 min   Intro
60 min Work

Breakout Session

Thematic Visioning GROUPS

● SCENES
BioGenetics & Agriculture

● SCENES
Autonomous Systems & Vehicles

● SCENES
Digital Humanism

● SCENES
Artificial Intelligence

● SCENES
BioGenetics & Agriculture

● SCENES
Autonomous Systems & Vehicles

● SCENES
Digital Humanism

● SCENES
Artificial Intelligence

Best Case

Worst Case

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Slide 1

Roles in the VISIONING Groups

SCENES
BioGenetics & Agriculture

SCENES
Autonomous Systems & Vehicles

SCENES
Digital Humanism

SCENES
Artificial Intelligence

→ **MODERATOR**
- ✓ Moderator inviting everybody for presentation
- ✓ Implementing time slots for each person & paying attention to "allowed" duration of the break out session

→ **NOTE Taker:**
- ✓ Taking notes in the template "Best Case"/ "Worst Case" Story Board

→ **ONE Pager:**
- ✓ ESSRG extracts the key messages for Co Change Labs one pager

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Slide 2

10:20 – 10:50

STEP (1) → Whole „Thematic Group" – Collecting Vision Statements

Please show your picture or scenario and tell us why you chose it! | 30 min

Motivation

- ✓ Max. 3 minutes per person
- ✓ Moderator inviting everybody
- ✓ Note taker collecting "vision statements" *(template "Timeline" of DAY 2)*

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STEP (2) → Whole „Thematic Group"

→ Step 2: Whole "Theme Group" | 30 min

Please select a "persona" and describe three scenes of a typical best case / worst case day of 2035!

- ✓ **5 min: Selection and definition of social context:**
  "friends", "collogues", "family members"

- ✓ **8 min: description of SCENES**
  SCENE (1) morning (living / social context)
  SCENE (2) day (work, mobility)
  SCENE (3) evening (leisure time / social context)

- ✓ **Decision: Taking on roles:**
  Stage director
  "Persona" telling what happens during the day

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STORYBOARD SCENE
BEST CASE: _____

A typical day in 2035
Description of selected PERSONA and its social context (friends, family, collegaues etc.)

_____
_____
_____
_____
_____

Scene 1
Morning | wake up...

_____
_____
_____
_____

Scene 2
During the day (leisure, work, mobility, etc.)

_____
_____
_____
_____

Scene 3
Evening activities

_____
_____
_____

DOCUMENTATION
Note taker

STORYBOARD SCENE
WORST CASE: _____

A typical day in 2035
Description of selected PERSONA and friends and its social context (friends, family, collegaues etc.)

_____
_____
_____
_____
_____

Scene 1
Morning | wake up...

_____
_____
_____
_____

Scene 2
During the day

_____
_____
_____
_____

Scene 3
Evening activities

_____
_____
_____

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Persona → *Please select a persona…*

Persona (1)

15-yr old femal student plays percussion in her own band

1

Persona (2)

35-yr hospital director with child w/ special needs

2

Persona (3)

39yr biogenetics graduate and young farmer in Southern Spain

3

Persona (4)

63yr Hungarian diplomat

4

Persona (5)

58yr nurse & student from Serbia

5

Persona (6)

16yr Syrian student and start-up founder in second migrant generation

6

Persona (7)

87yr widowed environmental activist from Tampere

7

Persona (8)

53yr civil servant for urban development in Vienna

8

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Persona → *Please select a persona…*

Persona (9)

58yr jet pilot and drone defense specialist

9

Persona (10)

93yr smart grid expert from Delft

10

Persona (11)

35yr researcher and founder of network „New research and teaching in Europ"

11

Persona (12)

29yr female lawyer specializing in white-collar crime and human trafficking

12

Persona (13)

59 yr female CEO and delegate of business assocation on RRI in the Alpine-Adriatic Region

13

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06

Visioning Process

11:40 – 12:40

**Key messages | Themes
Plenary**

60 min

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SET-UP of PLENARY VISIONING Process

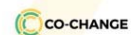| Sequence	Story Telling - 05 min	RESONANCE - 10 min	
1	SCENE Artificial Intelligence	Observers of the other groups	Worst Case
2	SCENE BioGenetics & Agriculture	Observers of the other groups	
3	SCENE Autonomous Systems & Vehicles	Observers of the other groups	Best Case
4	SCENE Digital Humanism	Observers of the other groups	

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Overview on 2 steps

→ **Step 1: Story Telling | 5 min**

Please describe your typical day in 2035…
- ✓ SCENE (1) morning (living / social context)
- ✓ SCENE (2) day (work, mobility)
- ✓ SCENE (3) evening (leisure time / social context)

→ **Step 2: Joint Interpretation | 10 min**

Observers answering following questions
- ✓ What characterizes life in 2035?
- ✓ What is the incredible positive / the incredible disaster in comparison to today?
- ✓ Which key messages did we hear?

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STEP (1) → **Story Telling**

- ● SCENES BioGenetics & Agriculture
- ● SCENES Autonomous Systems & Vehicles
- ● SCENES Digital Humanism
- ● SCENES Artificial Intelligence

Dear PERSONA: Please describe your typical day in 2035t!   **| 5 min**

- ✓ SCENE (1) morning (living / social context)
- ✓ SCENE (2) day (work, mobility)
- ✓ SCENE (3) evening (leisure time / social context)

Story Telling Roles | 5 min
- ✓ Stage director
- ✓ "Persona" telling what happens during the day

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STEP (2) → Joint Interpretation

SCENES
BioGenetics & Agriculture

SCENES
Autonomous Systems & Vehicles

SCENES
Digital Humanism

SCENES
Artificial Intelligence

Observers answering following questions...   **| 10 min**

- ✓ What characterizes life in 2035?
- ✓ What is the incredible positive /
  the incredible disaster in comparison to today?
- ✓ Which key messages did we hear?

Interpretation| 10 min
- ✓ ESSRG taking notes for the ONE PAGER

ESSRG → ONE Pager
- ✓ Please carefully record all statements

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07

12:40 – 12:50

10 min

Joint Co-CHANGE vision:
key messages

Peter Biegelbauer, Petra Wagner

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Key messages from the Visioning process

› The **"red thread"** through all the visions

› What are the **key messages** of the shared vision for us

› What is **important** for **Responsible Research and Innovation** (RRI) - Performing and Funding?

› Which **future potentials** become visible?

› Social, technological innovations, institutional changes, etc. are opening up for RRI?

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08
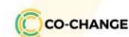
12:40 – 12:50

10 min

Outlook DAY 2

Doris Wilhelmer

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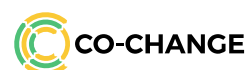
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Outlook to the thematic blocks of DAY 2

Duration DAY (1) : 9:00 – 13:00	
Welcome and Setting the Scene	40'	PL
Keynote on RRI sensemaking (M. Nieminen)	PL
Co-Change THEMES - Visioning / part 1	B-O
Break	15 min	
Co-Change THEMES - Visioning / part	PL
Conclusions and Outlook on Day 2	10'	PL
Feedback	15'	PL
End of Day 1	PL

Duration DAY (2): 9:00 – 13:15	
Welcome and Setting the Scene		PL
Co-Change LABS – Building Roadmaps	B-O
Break	15'	
Roadmaps – Laudations & Quick Wins	1	PL
Break	15 min	PL
Roadmaps - Laudations & Quick Wins	2	PL
Summary and Conclusions	10'	PL
Outlook: Co-Change Implementation Plan	PL

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09

12:50 – 13:00

→ **FEEDBACK to DAY(1)**

- o How are you?
- o Highlights?
- o Lowlights?

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Slides of day 2

Co-Change
Forum 1
Day 2, Sept 24

LINK to Hopin: https://hopin.to/events/co-change-forum-1

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01   09:00 – 9:10

                                                          10 min

**Welcome & Outlook
Day 2**

o   **Petra Wagner**
o   **Doris Wilhelmer**

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Forum 1 | AGENDA | DAY (2)

08:30	**AGENDA items**	**Format**
09:00	**Welcome and Setting the Scene** | 10' *Goals, seting up 6 Lab Groups*	Plenary
09:10	**Co-Change LABS - Building Roadmaps** | 1h20 *Intro Plenary; 6 Lab Sessions: Milestones 2020 → 2035; Goals per Mile / actors;* *2 subgroups per Lab Group: „Quick Win" (1,5 years) + Laudations*	**Break-out**
10:15	**Break** | 15'	
11:25	**Roadmap – Laudations & Quick Wins** | Part 1 | 45' *3 Rounds/Labs: 1) 5' Quick Wins, 2) 5' Laudation, 3) 5' Feedback Boards*	Plenary
11:40	**Break** | 15 min	
12.40	**Roadmap – Laudations & Quick Wins** | Part 2 | 45' *3 Rounds/Labs: 1) 5' Quick Wins, 2) 5' Laudation, 3) 5' Feedback Boards*	Plenary
12.50	**Summary and Conclusions and Implementation Plan** | 10' *Attractive starting points for Labs; Change Coalition Partners for Lab Success*	Plenary
13.00	**Feedback to DAY 2**|5'	Plenary

Breakout Sessions: Overview on 3 steps

Step 1: Whole "Co-Change LAB Group" → TIMELINE
→ Remember your Vision Statements from DAY (1)
→ Translate the statements into goals 2035 | 2030 | 2023 | 2020

Step 2: Whole "Co-Change LAB Group" → ROADMAP
→ Jointly develop cornerstones of your roadmap!
✓ Which actors were the driving forces for which objectives?
✓ Which measures of which actors allowed achievement of which objective?

Step 3: 2 Subgroups → Quick Win & Laudation
→ Development of a roadmap in two sub-groups!
✓ Quick Win Roadmap (next 3 years)
✓ Development of Laudation – looking back from 2025 to today

Roles in the VISIONING Groups

→ **MODERATOR**
  ✓ Moderator inviting everybody for presentation
  ✓ Time Keeper

→ **NOTE Taker:**
  ✓ Taking notes in the template
     "Best Case"/ "Worst Case" Story Board

→ **Role of ESSRG**
  ✓ ESSRG extracts the key messages for Co Change Labs one pager ◎ CO-CHANGE

Breakout Sessions: Overview on 3 steps

LAB → PNRS | RRIzing
LAB → VTT / RAAS | Research Alliance for Autonomous Systems
LAB → WWTF | Digital Humanism...
LAB → AIT | Machine Learning...
LAB → PL | Developing standardized RRI evaluation criteria...
LAB → Tecnalia | RRI consultancy service...

Step 1: Whole "Co-Change LAB Group" → TIMELINE
→ *Remember your Vision Statements from DAY (1)*
→ *Translate the statements into goals 2035 | 2030 | 2023 | 2020*

Step 2: Whole "Co-Change LAB Group" → ROADMAP
→ *Jointly develop cornerstones of your roadmap!*
  ✓ Which actors were the driving forces for which objectives?
  ✓ Which measures of which actors allowed achievement of which objective?

Step 3: 2 Subgroups → Quick Win & Laudation
→ *Development of a roadmap in two sub-groups!*
  ✓ Quick Win Roadmap (next 3 years)
  ✓ Development of Laudation –
     looking back from 2025 to today

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Slide 1

TIMELINE
NAME OF THE LAB _____

VISION QUICK WINS TODAY

2035
VISION
_____

2030
MILE 3 – OBJECTIVES
_____

2025
MILE 2 – OBJECTIVES
_____

2023
MILE 1 – QUICK WINS
_____

2020
CHALLENGES TODAY
_____

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Step (1) → TIMELINE   15 min

Please generate a timeline document and send it to petra.wagner@ait.ac.at & doris.Wilhelmer@ait.ac.at;

✓ **Remember your Vision Statements from DAY (1)**

✓ **Translate the statements into objectives 2035 | 2030 | 2023**

▪ Which quantitative MILESTONES do we have to reach WHEN, so that the vision can be achieved?

▪ What is Mile 1, Mile 2, Mile 3 per theme?

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Slide 2

THEME: _____
MILE N° ___

OBJECTIVE N° 01
_____

ACTORS	ACTIVITY	START-END

THEME: _____
MILE N° ___

OBJECTIVE N° __

ACTORS	ACTIVITY

THEME: _____
MILE N° ___

OBJECTIVE N° 01

ACTORS	ACTIVITY	START-END

Step (2) → Roadmap   3 x 13'   40 min

Please select 1 objective for each mile (2035 | 2030 | 2023) and describe possibly 2 bundles of measures per objective

✓ **Which actors are the driving forces for which objectives, allowing...**
▪ The emergence of acceptance...
▪ Availability of necessary expertise ...
▪ The chance of necessary investments...
▪ The implementation of necessary decisions...

✓ **Which MEASURES have to be taken by whom so that**
▪ The objectives can be reached?
▪ RRI can make a positive contribution?

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Step (3a) → Quick Win | 30 min

THEME: _____
MILE N° ___

OBJECTIVE N° 01		
ACTORS	ACTIVITY	START-END

THEME: _____
MILE N° ___

OBJECTIVE N° 02		
ACTORS	ACTIVITY	START-END

Please select 2 objectives of mile 1 (2023) and continue describing actors & actions…

✓ **Which actors were the driving forces for which objectives?**
- The emergence of acceptance…
- Availability of necessary expertise …
- The chance of necessary investments…
- The implementation of necessary decisions…

✓ **Which MEASURES have to be taken by whom (actor) so that**
- The objectives can be reached?
- RRI can make a positive contribution?

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Step (3b) → 3 - 5 min laudation → Structure of the Speech | 30 min

1. **In 2020** we were laughed at for our high goals …
2. **Today in 2035** we proudly show you the following results … with which even o**ur great expectations were surpassed** …
3. For making this possible, **we want to honor the following people / groups today:** ….
   ✓ Person / Group 1: We would like to thank XY for taking the following goals seriously in difficult times and implementing the following measures …
   ✓ Person / Group 2: We would also like to thank XY for taking the following goals seriously in difficult times and for implementing the following measures …
   ✓ Person / Group 3 / …
   ✓ Etc.
4. All of these **heroes** have **contributed to a high quality of life** thanks to the cooperation between **Science & Innovation & Society.**
5. **We are happy to accept our future responsibility** to further improve the decades ahead in terms of the quality of life thanks RRI.

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04

11:25 – 11:40

Roadmaps of the Labs

45 min

Plenary

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10:45 – 11:45

3 steps - ROADMAPPING Process | 4 Rounds
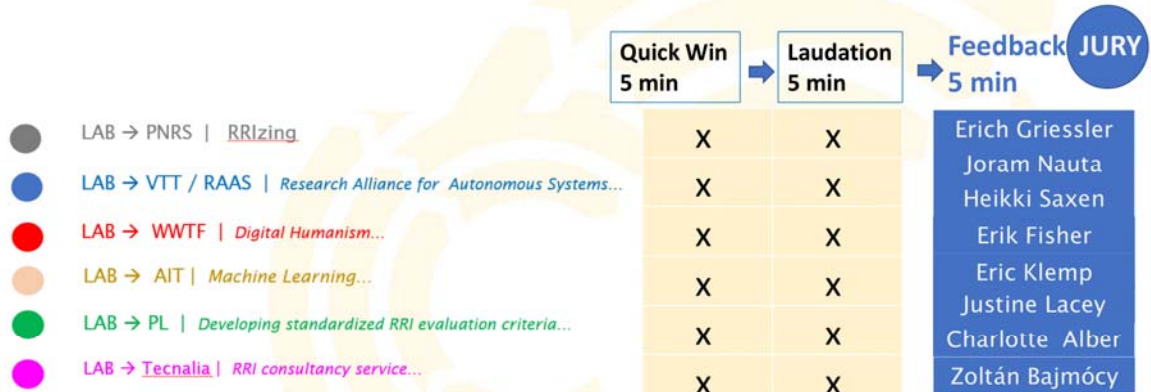
		Quick Win 5 min	Laudation 5 min	Feedback 5 min JURY
●	LAB → PNRS	RRIzing	X	X	Erich Griessler
●	LAB → VTT / RAAS	*Research Alliance for Autonomous Systems...*	X	X	Joram Nauta
●	LAB → WWTF	*Digital Humanism...*	X	X	Heikki Saxen Erik Fisher
●	LAB → AIT	*Machine Learning...*	X	X	Eric Klemp Justine Lacey
●	LAB → PL	*Developing standardized RRI evaluation criteria...*	X	X	Charlotte Alber
●	LAB → Tecnalia	*RRI consultancy service...*	X	X	Zoltán Bajmócy

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Key messages from the Roadmapping process

› The **"red thread"** through all roadmaps

› What are the **key tasks** for us the upcoming Co-Change LAB work?

› What are the key duties for **anchoring results on local level**?

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Next Steps of securing OUTCOMES of Forum 1

CO-CHANGE VISION 2035 → ESSRG

› **Balint & team of ESSRG** collate **a shared one-pager** on CO-CHANGE VISIONS incorporating the 4 themes and send the final vision document to Antonia, Petra & Doris

› Deadline: October 16

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Next Steps of securing Outcomes of Forum 1 & preparing Forum 2 → LAB Moderators

1. Lab moderators **organize a MEETING with their team members** and jointly **discuss/ reformulate**
   - ✓ **their roadmaps** (one-pager of Forum result) and their
   - ✓ their **Quick-Win Plan 2023** (one-pager of Forum result)

2. Lab moderators **send**
   - ✓ the roadmap document to Antonia, Petra & Doris | Deadline: October 16
   - ✓ Graphic support (visuals, etc.) possible by Balint & team of ESSRG

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Next Steps of securing Outcomes of Forum 1 & preparing Forum 2 → LAB Moderators

3. Lab moderators **organize a workshop** with their team members
   - ✓ To implement the robustness check
   - ✓ To prepare Forum 2
   - ✓ To implement the Co-Change Working Structure

4. Lab moderators **implement**
   - ✓ The Co-Change Structure
   - ✓ Telcos on current status, needs & opportunities
   - ✓ Can use the second level support: Antonia (TEC) and Doris & Peter (AIT)
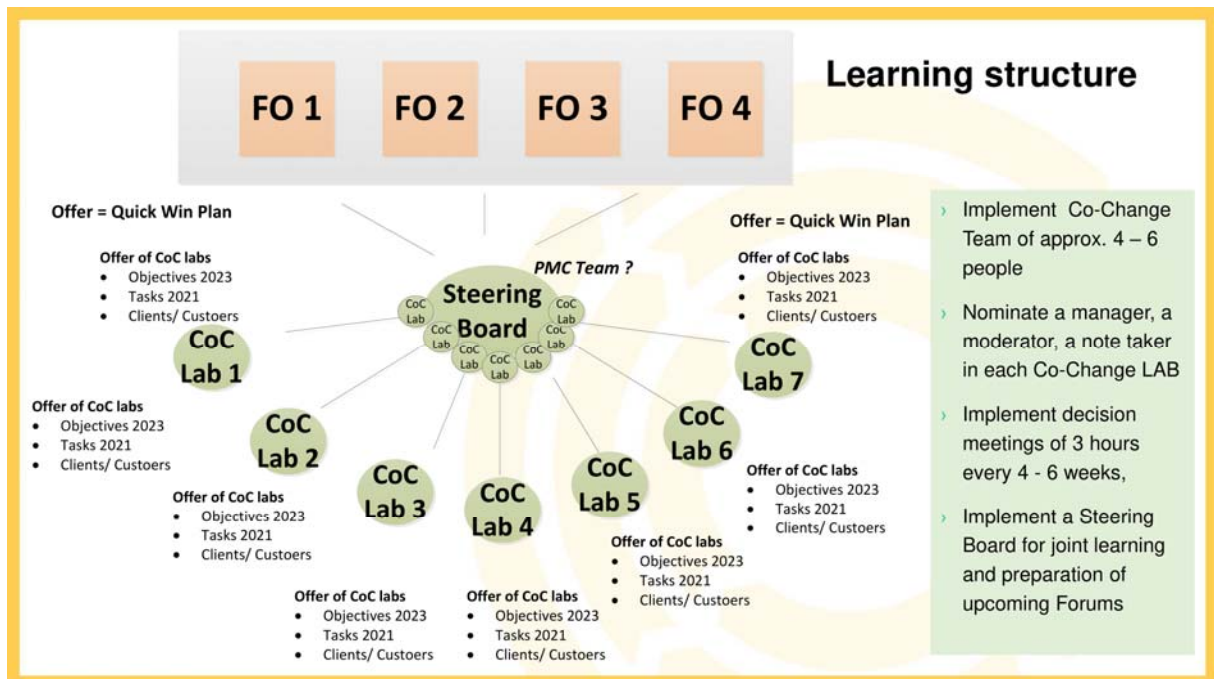
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Guiding questions for Setting up
→ CoChange Lab Teams
Organizing our working structures for the next 2 years (after Forum 1):

Please check your Quick-Win Plan (= offer of CC LAB)

- What are your (smart) goals for the next three years?

- Who are your main customers (internal/external)?

- Which results do they expect from your team (-> add *to goals*)

- What are your objectives and tasks for the next 6 months?

Please set up your Co-Change LAB

- What are the main tasks of your Co-Change Lab?
- What are the competences needed for your CC-LAB?
- Which additional people would you invite? Who talks to whom until when?
- How regularly do we meet? ~every 4 weeks? 6 weeks?
- Who moderates the group on a regular basis?
- Who helps with documenting and securing results?

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07

12:00 – 13:15

→ FEEDBACK to DAY(1)

- o How are you?
- o Highlights?
- o Lowlights?

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Wrap-up

Co-Change Forum 1 Wrap-up

23-24 September 2020. Location: Online

With this two-pager we want to thank all of you for participating at Forum1 of Co-Change and send you a few impressions and a quick wrap-up of the findings of the event. We have seen very eventful days, which gave us many helpful insights and a lot of food for thought for the progression of the change labs in the months to follow. As can be seen in Figure 1, our team of 7 (with Petra Wagner taking the picture and Peter Biegelbauer working remotely) was busy in keeping the conferencing tool Hopin running, moderating the event as well as documenting the outcomes. Given our current situation of a global pandemic, conferences have a very different touch, creating chances, like a more sustainable way of holding meetings of international teams, but also complications, like having technical troubles and missing possibilities of social interaction.

On day 1, we kicked things off with an inspiring talk about the *Why, What and How of RRI* by Mika Nieminen, who provided us an excursion into the history and the current state-of-the-art in RRI. The Session was followed by a visioning session in breakout groups, in which we developed different versions of the future focusing on key phenomena of our time, some optimistic and one highly pessimistic. After consultations in the groups, a scenic description of the people living in those futures have been shared. Day 1 was closed with an outlook to the agenda of Day 2.

Figure 1: The "Situation Room" on Day 1

Day 2 started with further breakout sessions elaborating actions and ways to form the future in a positive manner based on the visions developed on day 1 (see Figure 2). Those roadmaps were then discussed in the plenary (see Figure *3*) and members of the sounding and advisory board had the opportunity to comment on those roadmaps. The day was rounded off by summarising words and the introduction of the implementation plans followed by a quick round of feedback.

Thanks again for the helpful and honest words helping us all to have a successful path forward!

Best wishes,

the Co-Change Forum 1 team

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