SPARKS

RETHINKING INNOVATION. TOGETHER.

THE SPARKS' HANDBOOK

A guideline of innovative formats
for participatory activities & more

WELCOME!

The Sparks Handbook intends to convey important guidelines for each of the Local Organisers, who will host the Sparks exhibition in Europe.

You will find an overview of the exhibition, refresh the Responsible Research and Innovation scope of every step we are taking and get a deep insight on how to run participatory activities. We will end with a sample of the templates that you are expected to fill in, in order to collect the data, that will nurture our policy recommendations, to pave the way to a more inclusive research ecosystem.

We hope this document will be an easy consultation text, that will guide you and help to run engaging Science Espressos, eyes-opening Reverse Science Cafés and will spark enthusiasm to run one or more Pop-Up Science Shops, Scenario or Incubation Workshops. All these are new formats of developing public meaningful activities. Because we are rethinking innovation, together.

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RETHINKING INNOVATION TOGETHER: SPARKS, RRI AND THE EXHIBITION

ABOUT SPARKS PROJECT

Sparks is a major European project to engage members of the public with the concept of 'Responsible Research and Innovation'. RRI is a new terminology in the world of science policy, specifically comprising a set of best practices that the European Commission is encouraging researchers to follow through its Horizon2020 funding stream. For example, RRI encourages researchers to share and discuss their plans and findings with different stakeholders and public groups and to work with experts from other disciplines (ethicists, social scientists, arts and humanities scholars) in order to anticipate and reflect on the possible impacts of their research.

ABOUT RESPONSIBLE RESEARCH AND INNOVATION AND SPARKS

A Responsible Research and Innovation process wants to mobilise actors from society, research, industry, policy and education to take up new and alternative forms of knowledge, thus enhancing the knowledge-base and understanding of systems, processes, as well as the consideration of possible impacts. **This will enable a people-centred design where human values are better embedded in the R&I design process.** It builds capabilities in citizens and CSOs as active agents for shaping the future of society and developing solutions for the grand societal challenges.

> A Responsible Research and Innovation process wants to mobilise actors from society, to take up new and alternative forms of knowledge.

To shape an innovation-friendly culture enabling easier access to scientific results and input from society, RRI can be seen as an evolving concept. Its future design and level of implementa-tion will depend on the will and transformative capacities of the different

To shape an *innovation-friendly culture and enable easier access to, and input for society, to scientific results* RRI can be seen as an evolving concept.

actors of the research and innovation systems that adopt RRI as a guiding vision. Society's participation in developing research issues, in the research process itself and in the debate about and implementation of its findings are important factors determining the success of the transformation process towards a sustainable future.

In this context Sparks and all its activities can be seen as valuable to bridge the gap between research and society and mediate mutual learning and cooperation processes.

For a deeper look about understanding RRI and assessing it, please refer to RRI-Tools website.

ABOUT THE EXHIBITION "BEYOND THE LAB: THE DIY SCIENCE REVOLUTION"

The Sparks touring exhibition is a key component in the wider Sparks project. Developed by the Science Museum London and toured by Ecsite, the exhibition will exist as four identical copies, or 'clones', that will travel to 28 countries across Europe over a two year period. The exhibition will open in July 2016 in the Science Museum, London; Copernicus Science Centre, Warsaw; Science Shop, Bonn; and Hiša Eksperimentov, Ljubljana.

TARGET AUDIENCE

The primary target audience for the exhibition comprises ordinary museum visitors (i.e. not science specialists), aged 12+. In particular we will target independent adults and students (aged 12-18) and their teachers.

SPARKS EXHIBITION OBJECTIVES

- To create an exhibition that will have widespread public appeal among our target audiences across 28 host countries.
- To engage public audiences in a wide-ranging conversation around the medical sciences and about wider public involvement in the research and innovation process.
- To experiment with how an exhibition – and the 28 scientific/cultural institutions that host it – can become facilitators of the RRI process, specifically through bringing together scientists, policymakers, business leaders, and members of the public to explore the future of medical science and innovation.
- To accommodate a programme of events and activities within the exhibition structure that complements and shapes the exhibition content.
- To facilitate the collection of data on visitor opinions and responses to the themes presented in the exhibition, and to evaluate the experimental approaches to RRI that the Sparks exhibition and associated event programme will pilot.

EXHIBITION CONTENT & STRUCTURE

The Sparks exhibition is titled ***BEYOND THE LAB: THE DIY SCIENCE REVOLUTION*** It explores the increasing number of inventions and scientific discoveries that are being made by hackers, patient groups and ordinary citizens. Drawing on examples in the medical sciences – from a type 1 diabetic who is building his own artificial pancreas to community groups researching the health risks of urban air pollution – the exhibition examines how new technologies are opening up science to wider public participation and transforming the research and innovation process as a result.

The Sparks exhibition is titled ***BEYOND THE LAB: THE DIY SCIENCE REVOLUTION*** It explores the increasing number of inventions and scientific discoveries that are being made by hackers, patient groups and ordinary citizens.

Comprising a diverse selection of objects, photography, film and contemporary art pieces, the exhibition will present the stories of seven specific individuals and community groups. These stories are clustered around three content themes: *DIY Biologists*, *Health Hackers* and *Citizen Scientists*. A fourth section will present three artworks that imagine on where DIY science and medicine might lead in the future and what this could mean for all our lives.

In addition to the main content of the exhibition, there is also a small event space that can accommodate 15-20 people for activities and workshops, and a small display area that host venues can use to create a local display (referred to as the 'local case study' in the original grant proposal).

A

DIY Biologists

New community-based and 'DIY biology' labs are opening up across the world in garages, workshops and even closets, enabling a range of non-scientists to discover and get hands-on with scientific tools. These amateur biologists have big ambitions that could have profound impacts for the future of biomedical research – from discovering new sources of antibiotics to the home production of insulin using modified microbes.

Story 1:

The biohackers looking for new antibiotics

DIY biologists in Amsterdam are using lab equipment that they have built themselves to look for new sources of antibiotics in soil microbes and plants. They have shared their methods and results widely, leading to collaborations with similar community labs in Tel Aviv, Jakarta, Berlin, Nepal, Karlsruhe and Singapore, as well as with professional researchers at the University of Leiden and a drugs manufacturing company in Copenhagen. Antimicrobial resistance is a growing global health problem and, with research from professional scientists limited, this is an area where DIY biologists believe they can make a real impact.

Images: an open source centrifuge and people working inside the Amsterdam Open Wetlab.

Story 2:

A table-top lab for every home

Bento Lab began as a student project from London-based biochemist Bethan Wolfenden and designer Philip Boeing and has now grown into a social enterprise. Bethan and Philip's interest in open source science led them to create this lab-in-a-box, intended to be suitable for use by a wide range of people, from school children to students to hobbyists. The miniature lab contains a centrifuge, a PCR machine, a gel electrophoresis unit, and a small computer, making it suitable for DNA analysis. The beta kits have been used by a diversity of different people all over the UK whose stories will be presented in the exhibition – from a man investigating fungi populations in a back garden in Wales, to a project looking at whether different beers can be recommended based on the genetic make-up of yeast.

Images: the Bento Lab, a new table-top lab.

B

Health Hackers – *"Patients doing it for themselves"*

The availability of new technologies like 3D printing and widespread access to online data mean that hacker and amateur innovators can modify existing medical devices – and even build their own technologies from scratch. Many websites have also been set up to enable people to share their inventions and treatments with others, creating a rich exchange of ideas and new platforms for collaboration.

Story 1:

The patients turned medical innovators

Patient Innovation is a Lisbon-based organisation that gathers and reviews medical solutions and innovations created by patients and caregivers. If an innovation is reviewed positively then it is made accessible to a wider community via the organisation's website. In some cases, innovations are developed into professional products with support from professional clinicians and designers. Although only online since 2014, Patient Innovation has already published more than 500 solutions and initiated an annual patient innovation award. Inventions range from 3D-printed prosthetics to a diabetes 'backpack' designed by a ten-year old girl. We will present three of these stories in the exhibition.

Images: Ivan Owen helped Nuno to receive a new prosthetic arm through Patient Innovation, while Tal Golesworthy invented an aorta fixation device for himself that has now been implanted in 42 other patients.

Story 2:

The diabetes hackers

Tim Omer is part of a community of diabetics around the world who are building their own medical devices and apps for managing the condition. Their mission is to open source and bring down the costs of diabetes care - and to create tools that respond to the real needs of people with type 1 diabetes. This story will feature the perspectives of diabetics like Tim and also the opinions of professional clinicians and medical companies who are concerned at the ethics and safety of diabetics hacking their own medical devices.

Images: Tim Omer and a component of his DIY diabetes monitoring system, which he keeps inside a tic-tac case.

Story 3:

The patients who measure and experiment on themselves

Sara Riggare is a Swedish blogger and researcher who was diagnosed with Parkinson's disease in 2003, but sees her-self not as a patient, but ''im-patient''. She quantifies herself using self-built apps and commercially available activity monitors like 'Jawbone' and 'Misfit Shine' to assess the effectiveness of the medication that she takes on a daily basis. She is convinced that patients need to be much more involved in treatment given the few contact hours that each patient spends with clinicians and the many hours the patient is independently managing their condition. Sara has successfully identified the most effective schedule for her complex daily medical intake and she is now a PhD researcher and campaigner for people suffering from Parkinson's as well as an entrepreneur in health informatics start-ups.

Images: Sara Riggare and her activity trackers and app.

C

CITIZEN SCIENTISTS – *"RESEARCHERS AND THE PUBLIC WORKING TOGETHER"*

In recent years an increasing number of so-called 'Citizen Science' projects have been launched where scientists and the public work together to make new scientific and medical discoveries. Some of these initiatives focus on data processing and take place in the virtual world – often in the form of online games – while others actively involve people in collecting data, and even in the design of experiments that respond to community needs and local issues.

Story 1:

The mosquito mappers

Mückenatlas (*Mosquito Atlas*) is a German scientist-led project that enlists the help of ordinary citizens to track the distribution of mosquito species across the country. Members of the public catch mosquitoes in their homes and gardens and then send them in to participating research institutions (along with information on location, time and weather conditions). To date 5,000 people have participated in the project, with more than 17,000 mosquitoes collected in total and two invasive species discovered (the Asian bush mosquito in 2012 and the Asian tiger mosquito in 2014). Both species are potential carriers of dengue fever and West Nile virus and so the information on their distribution is being used as the basis for public health decisions and for modelling the spread of these diseases in the future.

Images: a mosquito collecting kit and a selection of the 17,000 specimens collected by the public.

Story 2:

The community groups measuring air pollution

Mapping for Change is a London-based social enterprise that's been working with communities across the city since 2008 to monitor air pollution levels, which are a major problem in London, with EU legal limits commonly exceeded. Participants place air monitoring devices on lamp posts around their communities and the results are then analysed in the lab by professional scientists and the results handed back to local groups. Data is then used to produce maps showing pollution hot-spots, to navigate safe cycle and walking routes and to support local campaigns aimed at improving air quality standards.

Images: a nitrogen dioxide diffusion tube being installed on a London street.

ARTWORKS

Three commissioned artworks that imagine future trends in medical technology are being developed during a residency process at Ars Electronica and form the fourth section of the exhibition. These artworks are currently being developed and include:

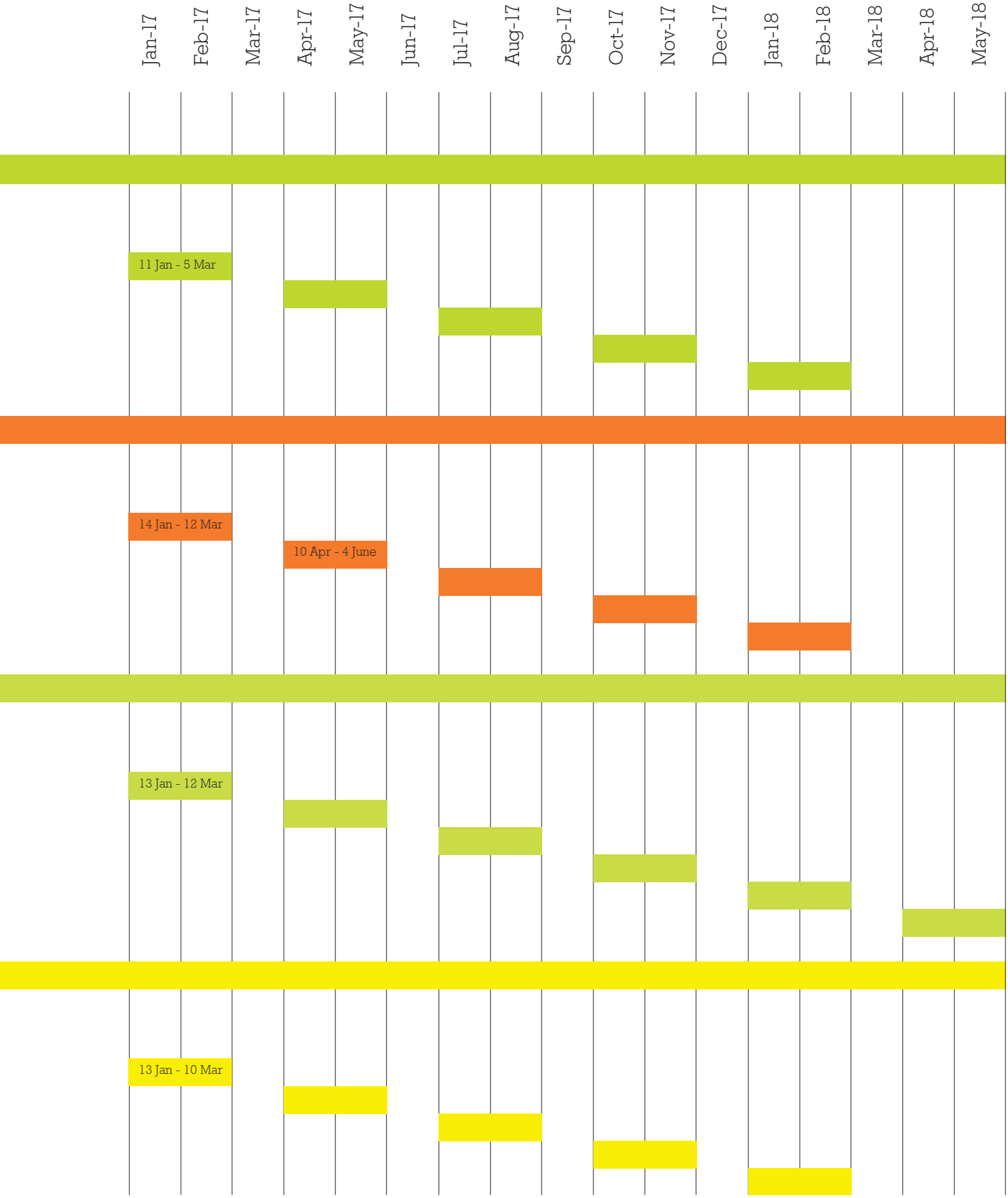
- A 3-D printed headset from **Anouk Wipprecht** which will be displayed alongside a short explanatory film.
- A film from **Lucy McRae** that explores the future of body monitoring,
- A display of fictional medical robots from **Jacob and Lea Illera**, which will be displayed alongside an animated film.

For more information on the artworks please see this article from Ars Electonica.

Images: proposed headset design from Anouk Wipprecht

TOURING SCHEDULE
(updated in May 2016)

Venue		Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
CLONE 1							
Science Museum	UK	08 July - 28 Aug					
Parque	Spain				4 Oct - 4 Dec		
Ciencia Viva	Portugal						
Cap Science	France						
Technopolis	Belgium						
Continium	Netherlands						
Science Gallery	Ireland						
CLONE 2							
Copernicus	Poland	15 July - 4 Sep					
Tycho Brache	Denmark				4 Oct - 18 Dec		
Norrkoping	Sweden						
AHHAA	Estonia						
VIUC	Latvia						
ISI	Lithuania						
Heureka	Finland						
CLONE 3							
Bonn	Germany	6 July - 28 Aug					
Luxembourg SC	Luxembourg				17 Sept - 30 Nov		
Neulogy	Slovakia						
Ars Electronica	Austria						
ESSRG	Hungary						
Gallery Gama	Czech Republic						
MUSE	Italy						
USI	Switzerland						
CLONE 4							
Hisa	Slovenia	18 July -26 Aug					
The Blue World	Croatia				26 Sept - 27 Nov		
EUC	Cyprus						
EA	Greece						
MCST	Malta						
CRA	Bulgaria						
LSSSU	Romania						


Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
11 Jan - 5 Mar
14 Jan - 12 Mar
10 Apr - 4 June
13 Jan - 12 Mar
13 Jan - 10 Mar

INNOVATIVE PARTICIPATORY ACTIVITIES: GUIDELINES, TIPS & MORE

GUIDELINES TO PLAN YOUR WORK

SPARKS GUIDELINES WORK PLAN

INTRODUCTION

A work plan is an outline of a set of goals and processes by which a team and/or person can accomplish those goals, offering the reader a better understanding of the scope of the project. Work plans, whether used in professional or academic life, help you to stay organised while working on projects. Through work plans, the breakdown of a process into small, achievable tasks and the identification of things to accomplish can be described.

Part of the general work plan of Sparks is the touring schedule but also the work plan of each local organiser on how to implement Sparks activities (local partnerships (who to consider, how to contact, how to keep in touch …), preparation of activities around chosen methodology, dates and timelines for each element, local and consortium related public relations and dissemination activities, reporting …).

So, all Sparks partners have to develop their own work plan, which should contain rather first ideas and plans on local activities. **These local organisers' work plans are a deliverable (D3.3: Work plan and methodology for the organisation of science cafés and optional activities in the 29 countries, due month 12, June 2016)**

In the following chapter there are general suggestions and advice on how the core general elements of activities in Sparks could be considered when setting up your individual work plan and how they can be communicated in a transparent way. Please provide your first ideas, plans and timing of your local Sparks programme for the **Deliverable 3.3**.

Please see the following guidelines as general advice and complete the template at the end by 22 June 2016.

THE PURPOSE FOR THE WORK PLAN

The purpose for the work plan is to create a schedule for Sparks core and preparatory activities – from establishing local partnerships through the Reversed Science Café and Science Espressos, the chosen participatory methodology and follow-ups and reporting. This will help you to be clear about what you intend to do, how you intend to do it, when you want to do it and by what date you intend to have it done (refer to the content and steps described for the different participatory activities). When starting to write the work plan highlight the reasons why you are creating this work plan and identify problems that need to be addressed.

DETERMINING GOAL(S) AND OBJECTIVES

Goals and objectives are related to things you have to accomplish through your work plan. Goals are general and objectives are more specific. Goals focus on the big picture of your activity. Objectives should be specific and tangible. You should be able to check these off your list when you accomplish them. You can break down objectives into short-, middle-, and long-term objectives if they vary significantly.

WRITING THE WORK PLAN ACCORDING TO"SMART" OBJECTIVES

SMART is an acronym used by individuals searching for more tangible, actionable outcomes in work plans.

- **Specific.** *What exactly are we going to do for whom?*
- **Measurable.** *Is it quantifiable and can we measure it?*
- **Achievable.** *Can we get it done in the time allotted with the resources we have available?*
- **Relevant.** *Will this objective have an effect on the desired goal or strategy?*
- **Time bound.** *When will this objective be accomplished, and/ or when will we know we are done?*

LIST OF RESOURCES

Include anything that will be necessary for you to achieve your goals and objectives. Resources will vary, depending on the purpose of your work plan. This can include financial budget, personnel, consultants, buildings or rooms, and books – or research materials, computer and Internet access, and your local partners

IDENTIFYING ANY CONSTRAINTS

Constraints are obstacles that may get in the way of achieving your goals and objectives.

NAMING WHO IS ACCOUNTABLE

Accountability is essential for a good plan. Who is responsible for completing each task? There can be a team of people working on a task (see resources) but one person has to be answerable to a task being completed on time.

WRITE YOUR STRATEGY

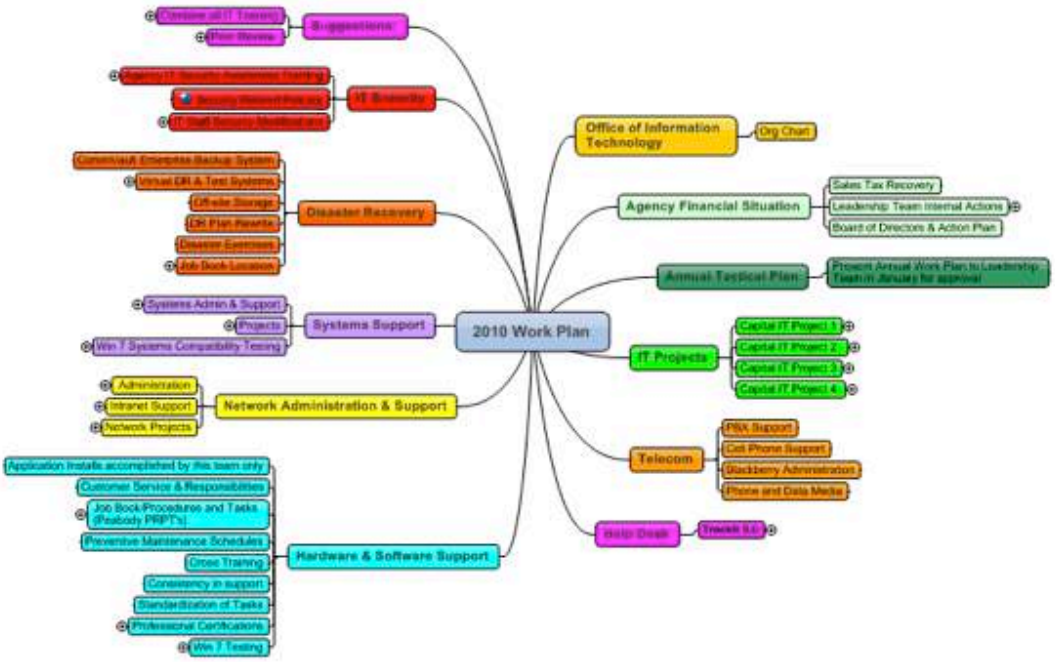
Decide how you will use your resources and overcome your constraints in order to reach your goals and objectives.

List specific action steps. Identify what needs to happen each day or week for you to complete your objectives. Also list steps other people on your team will need to take.

Consider using project management software or a personal calendar to keep this information organised.

Create a schedule. Though you can create a tentative work schedule, realize that unexpected things happen and you need to build space into your schedule to prevent falling behind.

SAMPLES OF VISUALIZATION OF WORK PLANS



Source

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*Work Plan is subject to change based on circumstance

Week 1 = Week of October 1, 2012

Phase	Work Plan Item	Owner	Week	Estimated Hours/ Week**
Planning	Talent Team speak with Hiring Manager to kick-off the RoR Developer search. The meeting will include: determining best job description and intangibles, recruiting strategy (where to post position), salary range, interview process, company/job pitch, discuss company culture/selling points	Greg, Katy	1	0.5
Planning	Post the agreed upon job description to OpenView's internal website and LinkedIn to attract inbound candidates.. Reach out to internal network for recommendations. Develop target list of companies to proactively source from. Based on agreed upon job responsibilities, develop list of questions for candidate initial screen. Research forums and groups in which RoR Designer candidates virtually attend.	Katy	1	8-10
Sourcing	Outbound: source candidates from developed list of target companies. Reach out to outbound/passive candidates on LinkedIn to build pipeline of qualified candidates. Set up phone screens with interested candidates and track all contact in ATS Inbound: Review inbound resumes/referrals for qualified applicants. Set up initial calls and phone screens. Network sourcing: Source connectors within the industry/market to expand network and gain referrals/ recommendations. Set up calls with networks and send information for them to send/post within their network. Post opportunity in research forums/groups to market position and gain recommendations.	Katy	2-5	8-12
Phone Screening	Perform phone screens. After candidate has been deemed qualified via phone screen, email a candidate summary and resume to Hiring Manager for review. Include (but not limited to) bullet points on candidate regarding their interest in the position, reason for leaving last position, and salary requirements. Will send minimum of 2-3 qualified candidates weekly.	Katy	2-5	4-6

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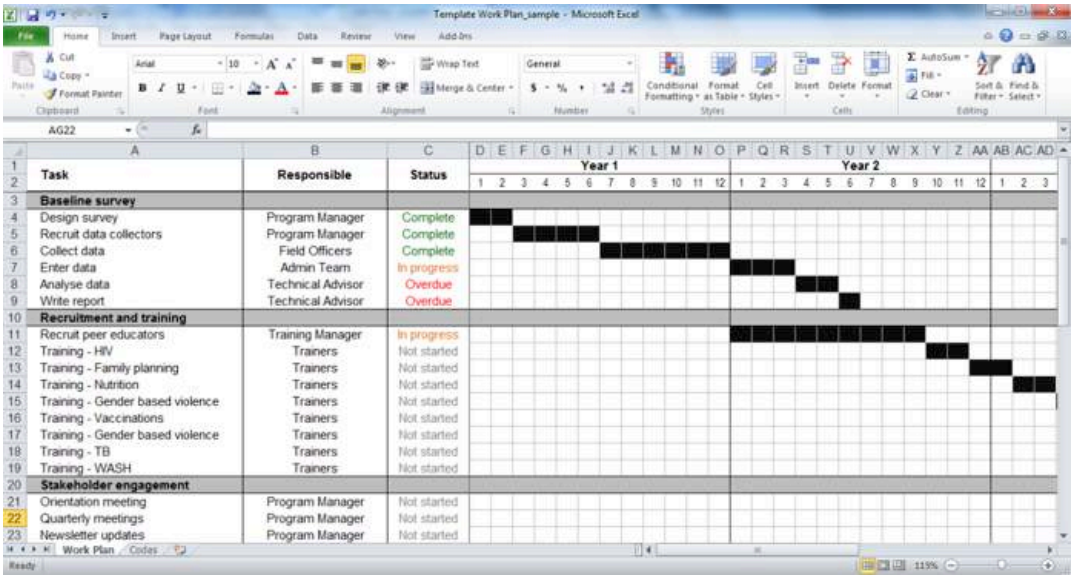
Source



Source

SPARKS WORK PLAN ITEMS

As mentioned in the introduction, you, as a local organiser, have to contribute to the overall Sparks work plan (Deliverable 3.3) which is due end of June 2016. We kindly ask you to provide us with your **first ideas, plans and timing of the Sparks programme in your country.** Therefore, the following template has to be completed and returned to Bonn Science Shop (**constanze.clemens@wilabonn.de**) **until 22 June 2016 latest**.

Please copy the template into a word document in order to complete it!

SPARKS WORK PLAN OF XY

1. **Name of local organiser:**
2. **Dates for hosting the exhibition:**
3. **Timeframe for activities (Reversed Science Café, Science Espressos, Optional Activity):**
4. **What type of organisations do you plan to involve (local partnerships):**
5. **How are you planning to involve the local partnerships:**
6. **Topic for the local case study:**
7. **Topic for the Reverse Science Café:**
8. **Which optional methodology will you choose and why (Scenario Workshop, Hackathon, Science Shop):**

ESTABLISHMENT OF LOCAL PARTNERSHIPS

INTRODUCTION

One of the first tasks you will face as a local organiser is to build local partnerships. **Local partnerships are essential for planning, preparing, implementing and evaluating the activities, before and during the exhibition period in your country.** Most of you might already have a network of partner organisations or institutions that you have worked with in the past, but the overall topic of RRI in the context of technology shifts in health and medicine will require the initiation of a new network and new partnerships in your local context.

We advise you to start working to establish these collaborations as early as possible, at least 6 months before the opening of the exhibition in your country.

GENERAL PURPOSE OF LOCAL PARTNERSHIPS

- Local partnerships will help you find a local case study for the exhibition.
- Your local network will accompany you throughout the whole phase of activities and the exhibition period.
- Activities can be planned and implemented with the support of the local partnerships.
- Partners can help you generate content and questions for your activities.
- Experts for the activities (RRI or health/medicine related) can be sought and found through your network.
- A partner from your local network might be interested in hosting one activity at their venue (e.g. the initial Reversed Science Café or a Scenario Workshop).
- Local partners can function as multipliers for the promotion of the exhibition and the activities.
- Local partners can help you identify local events to which the project will be presented (see communication strategy, p.10).
- Local partnerships can last longer than the project phase and it might be possible to initiate a new project together.
- Local partners can act as RRI ambassadors in local contexts.

EXAMPLES OF TARGET ORGANISATIONS AND LIKE INSTITUTIONS

Who you identify and contact as a local partner is mainly dependent on your local context and possible topics for your local case study or the activities that you have in mind.

Try to establish partnerships with at least one local representative of the stakeholder groups of RRI (research, industry, civil society, policymakers, education) and involve them in the activities.

Some examples of local partners you may contact are as follows:

- Universities
- Researchers (from the field of health and medicine or related to RRI elements)
- Research institutions
- Associations
- Foundations
- NGOs
- Municipalities (health department)
- Health networks
- Health insurances
- Patient's associations
- Hospitals
- Doctors
- Care facilities
- …

Please also use the Inception Report and the news on Flipboard to find out about possible themes, angles and content for building your local partnerships.

STEPS TO BE TAKEN

- Identify possible stakeholders/ partners (in research, policy, industry and civil society) related to the topic(s) of the exhibition and/or the topic of your Reversed Science Café or other topics you have in mind for your activities
- Contact these stakeholders (by email, telephone, written letter, personal meeting; elements that should be included in the invitation can be found in Annex 1)
- Organise at least four meetings with the partners (see next paragraph on meetings)
- Sign an agreement on participation
- Keep your partners updated and stay in contact
- Integrate them in your general communication if this is desired and possible (e.g. mention them in press releases)
- Invite them to the opening of the exhibition
- Organise your activities together
- Involve them (e.g. as experts) in your activities
- Evaluate your activities in cooperation with them (at least one meeting/focus group should be dedicated to evaluation/assessment or, alternatively, a short survey could be set up – KEA will provide guidelines and a template in this respect)

Invitation elements for local partnerships

You can approach your potential local partners in different ways – by telephone, email, written letter or personal meeting. But please, mention all these elements:

Mention your exhibition

Mention the participatory activities you plan to organise

Explain the content of the exhibition and your local case study (unless you are contacting a partner delivering the local case study)

Explain the context of the exhibition: touring exhibition shown in 29 European countries, part of the Horizon2020 EU-funded Sparks project, explain the aims of the Sparks project

Explain why you want to collaborate with the partner (organisation)

Explain how the partner could be involved and what role is foreseen (Suggest a date for a personal meeting)

MEETINGS WITH LOCAL PARTNERS

Keep in mind that it is compulsory for every local organiser to organise at least 4 meetings with your local partners, apart from personal meetings and agreements. A budget for catering at these meetings is allocated. Use these meetings to:

- agree on areas of collaboration
- discuss the partner's role
- consider, agree on and prepare topics for your activities (e.g. for a Reversed Science Café or an Incubation Workshop)
- involve the partners in your activities (set roles)
- evaluate your activities
- …

Examples of four meetings
(different for every partner):

1. meeting to share information about the project, the exhibition and the planned activities
2. meeting to prepare a Reversed Science Café
3. meeting to prepare an optional activity (Scenario Workshop or Incubation Workshops)
4. final meeting after the exhibition to receive and give feedback and to evaluate the involvement of local partnerships

Examples from Warsaw

At the Copernicus Science Centre in Warsaw, Poland, we strove to create Local Partnerships with some new and some familiar partners. We began by finding scientists with interesting research cases and open for new perspectives.

The Open Science Foundation is an institution that funds, organises and assists science-themed projects aimed at a broad audience, with active involvement of society in socially important fields. The funding for such projects comes both from corporate social responsibility (CSR) programs and from funds available for research work and for educating and stimulating society. Through the scientific stimulation of society, the Foundation provides significant support to educational and pro-innovative activities by other institutions and organisations. The Foundation was set up by the Institute of Biochemistry and Biophysics, Polish Academy of Sciences.

- The Medical University of Warsaw
- The Interdisciplinary Centre for Mathematical and Computational Modelling (ICM), University of Warsaw
- The City of Warsaw
- The SAR Marketing Communication Association shapes good practices, drawing together the biggest personalities in the market. The Association belongs to international and Polish industry and marketing organisations, collaborates with employers and entrepreneurs on an ongoing basis, promotes and represents its members and defends their interests, safeguarding business standards. It works towards improving the existing legal framework concerning communication. Since 1997, it has consistently worked to create a platform for developing collaboration, building relations, instilling confidence and respect, and exchanging ideas, among everyone for whom a partnership-based and ethical model of effective communication is a priority, translating into success in business.

LOCAL MEDIA CONTACTS

Local media can also function as a local partner in your network. Establish contacts with local newspapers, local radio and TV channels. Local media can help promote your events and exhibition and draw attention from the public to the project. To draw attention to your local exhibition, organise a media event prior to the opening of the exhibition.

More about it in the Communication Strategy.

Also try to use your local partner organisations and their dissemination channels as multipliers. Through their channels, they might be able to reach more people who are interested or affected by the topics discussed. For dissemination purposes, set up an email list with all contacts researched in your local surrounding (e.g. hospitals, research centres, doctors, patient groups, municipality departments, etc.), including your local partnerships. Send them information, e.g. about the exhibition, press releases, announcements of events, invitations…, and ask them to distribute further.

REPORTING ON LOCAL PARTNERSHIPS

At the end of the project, a list of all local partnerships from all local organisers will be compiled. This list will not only name the partner institutions or organisations you worked with, but will also list information on the partner's role, on the meetings organised and on the willingness of partners to actively engage in RRI, including after the project. Therefore, it is important that you document your meetings. A template for final documentation will be included in the Guidelines for Data Collection delivered by KEA. Please fill in this template meticulously after the end of your exhibition and your activities and do not forget to meet with your local partners after the end of the exhibition and the activities for evaluation.

COMPULSORY ACTIVITY: REVERSED SCIENCE CAFÉ

FACT SHEET

GENERAL DESCRIPTION	The Reversed Science Café is a discussion event focused on various ethical and societal topics related to local examples of research, technologies and innovations. The dialogue is initiated by experts posing questions and listening to answers from the audience. Together they work in small groups to formulate their advice on making research and innovation more responsible. These results supplement the *local case study* presentation for the Sparks exhibition.
PARTICIPANTS – TARGET GROUPS	Interested citizens and representatives of various stakeholders - depending on the choice of topic. The group should be inclusive of people from various backgrounds, of different genders and points of view. The age group of audience should be 12+ with preference for adults.
RRI CONTEXT	A public dialogue involving experts and specialists representing different policy agendas or processes of RRI is encouraged by empowering the event's audience to share their opinions and knowledge on the chosen topic.
EXPECTED OUTCOME	• From 5 to 10 short written recommendations referring to the *local case study*. • Participants' better understanding of the complexity and ethical/social context of research and innovation processes. • New connections between experts and audience, building trust and openness to dialogue.
PREPARATIONS	**Month 1-3** • Building local partnerships • Defining the local case study on research/innovation for the exhibition and for the Café • Involving experts – choosing them and working on their questions for the audience • Defining the audience • Logistics (venue, catering, practicalities) • Preparing communication and inviting the audience **Month 4-6** • Recruiting and preparing moderators • Holding the Café • Using the recommendations to supplement the presentation of the local case study at the exhibition

LEADING THEME DEVELOPMENT	The theme should be a specific and locally relevant aspect of the general theme *Technology shifts in health and medicine*. It should be defined by the local organiser with all Sparks activities in mind and it should be developed by a local partnership into a concrete example of research and innovation. The local case study used in the café should be the same as, or at least closely connected to, the local case study presented at the exhibition.
EXPERTS	A mix of researchers/innovators (ideally ones whose work is presented in the local case study) and specialists covering different policy agendas of RRI or being involved in one of the RRI processes.
FORMAT IN NUMBERS	The event should last around 3 hours. Between 30 and 80 participants and 5 to 10 experts (at least 1 for every 8 Audience).
VENUE	A room which can hold your number of participants divided in groups of 10 people (8 audience members, 1 expert and 1 moderator), sited around tables, where they can discuss easily and move from table to table.
CATERING	It should be conducive to an informal "café" feeling: hot and cold drinks and snacks are the minimum.
RESOURCES	**Staff**: Main coordinator of the event, (with optional 1 to 3 logistics and venue assistance), Main moderator (and experts' assistant), Group moderators (1 for every 8 audience members) and 5 to 10 experts (one for each group), 1 IT & audio assistant. 1 photographer (advisable – one event assistant may serve this function.) **Equipment**: Microphones and loudspeakers for the main moderator. Stationery (flipchart paper, markers) for each group. A screen or projector for the expert presenting the local case study
TYPICAL TIME FRAME	**Month 1 to 3**: Build local partnerships, define *local case study* for exhibition and café, choose experts and work together on their questions for the audience, define audience, prepare logistics and communication. **Month 4 to 6:** Recruit and prepare moderators, hold the event, and use the recommendations to supplement the presentation of the local case study at exhibition.
RUNNING THE EVENT	See **Appendix1: THE SCENARIO OF THE EVENT**

LET'S BEGIN FROM THE BEGINNING

A Reversed Science Café (RSC) is a discussion event focused on various ethical and societal topics related to local examples of research, technologies, innovations. Unlike a regular science café, here the dialogue is initiated by experts posing questions and listening to answers from the audience. Together they work in small groups to formulate their advice on making research and innovation more responsible. These results supplement the local case study presentation for the Sparks exhibition.

A Reversed Science Café (RSC) is a discussion event focused on various ethical and societal topics related to local examples of research, technologies, innovations. Unlike a regular science café, here the dialogue is initiated by experts posing questions and listening to answers from the audience.

The discussion should be kept as informal as possible.

This might be achieved firstly by arranging the venue in a special way, or even by holding the event in a real café, and secondly by fostering discussion in a few smaller groups rather than a large undivided one. For many people such conditions will be comfortable enough for them to participate actively. Moreover, dividing the audience into smaller groups makes it possible to hold a relatively big event while still keeping it informal and intimate.

The audience will be divided into smaller groups for discussion (maximum eight people in each). In the smallest version of the event, we recommend having five groups, and in the largest, ten.

Each small group consist of:
8 Audience members, 1 Expert,
1 Group moderator.

The RSC should last three hours. The event should be attended by a minimum of 30 and maximum of 80 people. It is your choice whether you want to make it large or small.

Remember, the more audience members you invite for your RSC, the more resources, experts and effort needed.

The obligatory participatory activities in the Sparks project should be attended by a minimum of 150 participants in total (1 Reversed Science Café and 6 Science Espressos). Therefore the number of the RSC participants should be considered in reference to your plans regarding the capacity of the Science Espresso meetings.

The RSC will be the first Sparks event in your country. It is should be held at least one month before the arrival of the Sparks exhibition.

It is crucial to prepare this event with care and a lot of planning. Firstly, because this will be the first time you present your local case study which will be part of the exhibition. Secondly, because the outcome of the RSC will supplement the exhibition, providing your local content on an RRI issue.

The earlier the RSC will be performed in your country, the more time you will get to compile and prepare the outcome to be implemented in the exhibition. Therefore, we recommend to schedule this event as early as possible. At the Copernicus Science Centre they decided to run their RSC two months before the exhibition arrival. And last but not least, because it will be the first noticeable result you can communicate to your local media. So preparing a successful Reversed Science Café will help you keep their interest in the following events and programs, especially the exhibition opening.

SETTING A REVERSED SCIENCE CAFÉ

LOCAL CASE STUDY AND THEME

The local case study is an example of responsible research and/or innovation that will be the starting point of the event as well as part your local version of the Sparks exhibition. Your local case study should be defined together with your local consortium.

For the RSC, it is important to establish one, quite specific, leading theme. Technology shifts influence on medical sciences and healthcare is too broad as a topic and it might be very hard to work out any specific results in three hours' time. **Together with your local partners you should define what matter is the most essential and corresponds the best to the needs of your country.** You may name a few topics and choose one later which works the best.

The local case study is an example of responsible research and/or innovation that will be the starting point of the event as well as part your local version of the Sparks exhibition.

The RSC theme should be in reference to the big question from the Sparks project proposal "What does responsibility mean in the context of research and innovation practices?". Moreover, the chosen topic must refer to your local case study presented during the Sparks exhibition – mostly because the outcome of the discussion has to be implemented in the local RRI example featured in the exhibition.

Examples of local case studies

For the pilot event at the Copernicus Science Centre in Warsaw, Poland, the local case study centred around the work of **Paweł Szczęsny**, **PhD**, and his approach to researching Sudden Infant Death Syndrome (SIDS), also known as "crib death". Crib death, the unexplained death of infants between 2 and 12 months old, affects about one in 2000 children. Apart from risk-reducing recommendations (such as placing such children to sleep on their back), doctors have nothing else to offer worried parents. This fear is taken advantage of by companies selling various devices that – apart from alleviating the parents' psychological need to feel like they are "doing something" – do not actually prevent or detect the risk of crib death in any way. Research on the mechanism of crib death is slowly bringing us closer to understanding the essence of the problem, but final results are still a long way off. Paweł Szczęsny, PhD, from the Institute of Biochemistry and Biophysics (Polish Academy of Sciences) and Warsaw University, intends to shorten this process through greater openness not only of research results, but of the research process itself. This latter mechanism, known as "citizen science", is a key element in modern thinking about the responsible conduct of scientific research.

EXPERTS

Experts are scientists, researchers, engineers, innovators and people who in their professional work represent one of the policy agendas of RRI (mainly: governance, science engagement, education, ethics, gender and open access). **Each RSC should involve between 5-10 experts from different fields, so together they will give your audience a broad overview of RRI in practice.** The amount of experts will be defined by how many groups there will be in your event.

Experts are scientists, researchers, engineers, innovators and people who in their professional work represent one of the policy agendas of RRI

The group of experts should be selected with the following in mind:

- The diversity aspect: Ideally with each expert representing a different field.
- Experts' curiosity for the audience's opinions about their work, openness to hearing them and discussing them.
- The theme of the café and the local case study: Experts should be able to formulate questions that will initiate discussion around the chosen topic

Examples of experts engaged in the pilot Reversed Science Café

Researcher/scientist –
Paweł Szczęsny, **PhD**,
Institute of Biochemistry
and Biophysics
(Polish Academy of Sciences);
Faculty of Biology
(University of Warsaw);
Open Science Foundation

Science Education –
Irena Cieślińska, PhD,
Copernicus Science Centre

Ethics –
Andrzej W. Nowak, PhD,
Institute of Philosophy
(Adam Mickiewicz University
in Poznan)

Open Access –
Lidia Stępińska-Ustasiak,
ICM (University of Warsaw);
Open Science Platform

Researcher/scientist
Szymon Kozlowski, MD,
Department of Obstetrics
and Gynecology
(Medical University of Warsaw)

Finding proper experts is crucial for holding a smooth and effective RSC. They crucially need to be highly qualified, well-prepared, and ready to listen to the audience' opinions. Look for experts who, in their work, are open to dialogue with public, are interested in seeking their advice and listening to different point of views.
The event will make them discuss with and confront non-specialists – make sure to mention that early in your talks with experts.

The main source of finding experts would be through the local partnerships which you should establish before preparing the event. However, it is worth looking for Experts not only in this group. The most important thing is to find experts who will help you present the chosen issue from all RRI angles. **Moreover, we highly recommend maintaining a gender balance in the group of all Experts.** If necessary, sign contracts or formal agreements for your experts' remuneration

RECRUITING AN EXPERT

Firstly, it is necessary to invite one or two experts representing the research project which you will be presenting at the Sparks exhibition as the local case study.

The Experts who are involved in the presented research project will probably not be Experts on all aspects of RRI. **Therefore, we recommend that you invite a few experts who specialize in different areas with respect to RRI.** You can define them through the six key policy agendas **(Engagement, Education, Ethics, Open Access, Gender, Governance)** or four processes **(Open & Transparency; Anticipation & Reflexivity, Responsiveness & Adaptive; Diversity & Inclusion)**.
This will help in working out recommendations that refer to the local case study and in presenting it to the general public from the different RRI angles.

One or two Experts in medical research and healthcare systems might be helpful to keep the perspective of this sector.

Including an Expert from commercial institutions can help shed new light on the topic.

AUDIENCE

Your audience should consist of representatives of various interest groups, but also ordinary citizens interested in the subject of the meeting. Audience members have their private conversations, experiences, opinions and individual point of view to contribute. In the case of representatives of associations, they can share the official position presented by the association.

We strongly recommend devoting a lot of time and energy to making sure that the participants invited represent groups with different interest.

Your audience should consist of representatives of various interest groups, but also ordinary citizens interested in the subject of the meeting.

This approach has two important advantages. On the one hand, if you can invite people who are already in some way interested in the topic you want to discuss, they will likely already have some opinions, something that can be confronted with other views or can be shared with others. This will make the discussion more fruitful and will provide a greater opportunity to work out a more definite final outcome. On the other hand, the greater the diversity of the audience, the more likely that thought-provoking ideas may appear. This can be useful if you can identify a group of people that usually do not, or never have the opportunity to exchange their opinions, experiences and point of view on a subject within their common scope of interest. This will open new possibilities for networking.

We assume participants can also bring in knowledge on an expert level. For example representatives of patient's associations will be able to share practical experience of dealing with certain conditions – which is sometimes beyond the scope of medical expertise.

Also, even experts and audience members from related specializations can bring diverse knowledge. For example, midwives and medical doctors will have different knowledge about caring for pregnant women.

POTENTIAL SOURCES FOR AUDIENCE MEMBERS

- Universities
- Researchers (from the field of health and medicine or related to RRI elements)
- Research institutions
- Associations
- Foundations
- NGOs
- Municipalities (health department)
- Health networks
- Health insurances
- Patient's associations
- Hospitals
- Doctors
- Care facilities

… You can also invite people through an open call – this way you will not exclude anyone with lay expertise. And do not hesitate to reach out to your own trusted and tested public – for example, visitors of your exhibitions, if you are a science centre.

Create high diversity of your audience in term of age, nationality, education level, professional field, gender, etc. and by mixing people who might be already interested in discussing the topic of your choice with people with no previous knowledge about it.

It is important to start to prepare the audience even before you meet them by communicating the event's topic and format. Such communication is challenging, because you need to convince the Audience that their opinion and knowledge will be crucial for the discussion during the café. You might want to communicate the expert questions beforehand, but normally only clear information about the local case study should suffice.

QUESTIONS AND RECOMMENDATIONS

The questions posed by the experts to the audience should be connected to the expert's field of expertise. It should be phrased as an open question, designed to spark discussion – not to test the audience's knowledge on the issue. **Questions should ideally relate to the local case study. This way the audience will be able to reflect on it from different angles and discuss various issues surrounding the RRI practice.** Together they will analyse what different factors should be taken into account to make research and innovation socially responsible.

Recommendations are tangible outcome of a Reversed Science Café. These will be the result of the discussions during the event – summarized in a few written sentences. As the discussions are initiated by experts' questions, the recommendations should at least indirectly answer them. In practice these may be also sets of advice or requirements for research and innovation processes in general.

The questions posed by the experts to the audience should be connected to the expert's field of expertise. It should be phrased as an open question, designed to spark discussion – not to test the audience's knowledge on the issue.

The recommendations should touch upon policy angles of doing RRI, surrounding the local case study.

Example: Questions from the test RSC

Q: Would you agree, as parents, for your children to participate in clinical research whose goal was not yet clearly defined? In other words, in a situation when somebody firstly collects data and then, on this basis, looks for interesting research questions. This approach is called the "fourth paradigm" of science: data-driven discovery. Let's assume that the examinations are not invasive, but are not necessary performed at home.

Q: What credibility tactics should patient's associations adopt to be more credible partners to for the medical research community (the substantive aspect) and safer for patients (the moral aspect)?

MODERATORS

The RSC should be moderated simultaneously at two levels: at a central level by one **main moderator** and inside each group by **group moderators**.

The Main Moderator plays the role of a host, ensuring that the event proceeds smoothly, in line with the scenario. She or he will help the organisers to monitor the whole event and react, when needed. Moreover, he or she is needed whenever the Audience has to be instructed as a whole group.

The main moderator:

a) Plays the role of a host, ensuring that the event proceeds smoothly, in line with the scenario
b) Supports the experts during the event. Introduces the topic and all the Experts at the beginning
c) Controls the general timing of the event
d) Leads the common part, during which groups are exchanging results
e) Takes care of the Experts, e.g. lead them in conversation over coffee, when do they are not working in groups.

The second level makes it possible for each group to be led and monitored separately. Their role is to accompany audience members throughout the whole event and help groups follow through all the planned stages of the event.

The group moderators:

a) Introduce the Audience members in the group and the dedicated Expert to each other
b) Moderate discussions in the group, facilitating the discussion, posing additional questions and inviting people to speak, etc.
c) Control the timing (each group moderator should have the precise scenario of the event).

The people who will be assigned this role should be very sensitive to group needs, moods and be able to assure an open discus-sion and a positive experience.

Group moderators can actively take part in discussion without forgetting about their main role. We suggest that the group moderator and the Expert should not be the same person.

MAIN ASSUMPTIONS OF THIS METHOD

- Evoke two-way communication between experts and the Audience based on experience and diversity.
- Encourage the invited Experts to ask questions to which they have not yet found definite answers and to help refer to their problems or identify these points of view that are not obvious but important, e.g. in the process of research and implementation of solutions.
- Put forward questions that respond to a real need for feedback or specific information from the groups. This will put the Audience in the role of Experts, too.
- Experts should restrain themselves from monopolizing the communication process – it is a two-way exchange. Discussion is set in smaller groups, yet there should be exchanging of conclusions between all the groups.

EXPECTED OUTCOME

- Five to ten, short (one or two sentences) written recommendations with respect to the local case study. The RSC is the moment when the local organisers present their case study for the first time. The outcome of the Reversed Science Café is supposed to supplement the collected material with recommendations worked out by civil society representatives who attended it.
- Another, more intangible benefit is the networking process that is kicked off with this event. The informal style of a RSC helps to establish relations between all audience members, including experts and your organisation.

GETTING READY

The preparations for the RSC should start at least three months before the event. This will give you the chance to reserve the date in the experts' schedules, find and arrange an attractive venue, identify and invite the audience, and if necessary, sign contracts or formal agreements for your experts' remuneration, for renting the venue or other event organisation tasks and costs. This guideline assumes that the event should be attended by a minimum of 30 and maximum of 80 people. It is your choice whether you want to make it large or small.

Remember, the more audience members you invite for your RSC, the more resources, experts and effort needed. The obligatory participatory activities in the Sparks project should be attended by a minimum of 150 participants (in total, for all events: Reversed Science Café and 6 Science Espressos). Therefore the number of the RSC participants should be considered in reference to your plans regarding the capacity of the Science Espresso meetings.

PREPARATIONS WITH EXPERTS

First contact is crucial. Ideally you should meet the expert face-to-face before the event to explain its purpose and to check that he or she is the right person to take part. As this is not always possible, at least a phone conversation should be performed. Sending back a set of minutes or a summary of your talk to the expert would be very helpful to keep the message clear.

At the beginning, you will need Experts to propose a few questions that they would like to ask the Audience (one crucial factor behind a successful RSC is that there should actually be a need for answers to those questions).

Questions should:
- reflect their specialization,
- refer to the idea of RRI,
- be inspired by the leading theme of the RSC (the local case study).

For instance, an expert who works at a Science Centre should ask her or his question on a science-education issue.

Preparation of questions is an ongoing process, in which you and your local partnership partners should be continually involved. Your task is to support the experts in specifying and clarifying their queries.

You should organise at least one meeting with all specialists together before the day of the event. It is important to introduce them to each other. Secondly, this meeting is an occasion to clarify and find a common vision for the event, the role and tasks of the experts. Moreover, it will help to work out:

- The questions themselves (Experts can adjust their queries in reference to others)
- The main case study (how to present it and how to adjust the questions, additional examples, real or hypothetical situations that help you better understand the question).
- If it is impossible to gather all experts simultaneously in one place, we suggest organising a teleconference.

A second meeting should be held on the day of the event. We recommend starting it at least 1.5 hours before the RSC kick-off. The meeting should have an agenda to ensure that this short time is used efficiently.

Experts who represent the local study which you want to communicate at the exhibition as a local case study should prepare an 8 to 15 minute presentation on it. The key information which must be delivered are:

- What this project is about
- What the main goals are
- The project's stage of advancement
- Who is engaged in it (the most important stakeholders)
- How the expected outcome is planned to be used or implemented

PREPARING THE AUDIENCE

When the audience arrives it is very useful to break the ice with them quickly. Invite them to have some coffee or tea and introduce themselves to other people. Make them feel welcome. **Before the event starts you can already divide people into working groups. Make sure the groups are diverse but be mindful of people who come to the event in pairs or groups and might not want to split up.** Mixing them up will be more profitable for the event, as long as it does not cause anyone discomfort.

When the audience arrives it is very useful to break the ice with them quickly. Invite them to have some coffee or tea and introduce themselves to other people. Make them feel welcome.

During the pilot event Copernicus Science Centre used coloured cards they handed out to make sure that a large group that came from a patient's organisation would be split up between many groups. They agreed to that beforehand.

PREPARING THE MODERATORS

We suggest organising a briefing for this team a few days before the event. It is crucial that all of them:

- Understand the purpose, character of the meeting and their role in it.
- Receive an agenda and know how each phase of the event should look like.

PREPARING THE STAFF

All the moderators (and ideally all staff) should be familiar with the planned scenario and take care to ensure that the event runs accordingly. Nevertheless staff should be prepared to:

- Main moderator: Certain adjustments will have to be made "on the fly". The main moderator is responsible for communicating any and all changes to group moderators.
- Group moderators: As group discussions tend to become easily dominated by more charismatic group members, group moderators should focus on creating space for all the Audience members, encouraging those who might be less bold.
- Event assistants should be prepared to assist moderators and the main coordinator to remain focused on their tasks. Assistants might be helpful for example in directing people to the room, deliver things to the venue, and/or help if any trouble occurs.

PREPARING THE VENUE AND CATERING

Choosing and preparing a venue for the event is one of the keys to success. It is crucial to provide the Audience and Experts with the best conditions possible. **You need a room in which the tables and chairs for the small groups fit at a good distance from each other, so groups will not disturb each other** (approximately 20 sq. m for each group should be reserved).

Each team should be provided with a big sheet of paper. If you have a flip chart or wall on which to hang the posters, the tables may be smaller. However, if you want to work on the table, you need to provide large enough tables to fit a piece of paper in addition to drinks and snacks.

The place should be separate, secured from non-authorized access and quiet, so people can concentrate on the discussion. It is worth arranging your chosen venue in a way to give it a more intimate and café-like look.

Choosing and preparing a venue for the event is one of the keys to success. It is crucial to provide the Audience and Experts with the best conditions possible.

A few items which might be helpful during the event (in addition to any equipment for venue organisation or catering service):

- Computer, beamer & screen
- Loudspeaker system
- Flipchart board with paper (one per group)
- Felt-pens/flipchart markers
- Stickers
- Something you can use to divide people into groups (e.g. coloured balloons, pieces of paper or cloth, stickers, etc.)

Catering is a part of the message we want to deliver to the Audience. If we talk about health, we should provide healthy food and drinks.

If possible, we suggest that snacks and drinks should be served directly to the tables where conversations are made, or provided in the form of a buffet in the venue with an easy access for all participants during the whole meeting.

PREPARING THE COMMUNICATION

Communication for the RSC consists of two challenging perspectives: To attract participants and To disseminate the results.

Appendix II presents a communications SWOT analysis considering the two main target groups: the Audience and the media.

As you prepare your communication strategy please take in account not only your Strengths and Opportunities, but also your Weaknesses and the potential Threats.

"In our pilot RSC we tried quite a hectic strategy: firstly we focused on reaching some targeted interest groups, seeking to bring them in as participants, but when this turned out to be more difficult than expected, we turned to the Copernicus Science Centre's 'natural public' and handed out leaflets on the floor as well as invited our friends and colleagues. As a result, we had to swerve from the initial course of attracting 'average people' to a more humble one: the people who participated on the side of our audience were mostly pre-arranged colleagues of ours.

After the event don't forget to:

- Square financial accounts for event-related expenses
- Deliver the outcome (recommendations) to the group responsible for exhibition set-up.
- Report preparation based on the template given by KEA partners (and included in the handbook)
- Keep in contact with Experts and Audience (if necessary)

APPENDIX I:
THE SCENARIO OF THE EVENT

Duration - 3 h	Activity	Details
---	Opening the venue	This time is not included in event duration. This is an extra half-hour before the event kick-off. If it possible, the catering should be available at that time.
10 min	Introduction and dividing into groups	The Audience draw which group they will work in The Main Moderator informs the participant about the goals, the meeting schedule, etc., and introduces all Experts
15 min	Main case study presentation	Presentation prepared by one of the Experts
10 min	Experts are introduced to the groups and ask their questions	Led by group moderators. A person is selected from the group to write down the discussion results on the flipchart paper.
20 min	Discussion in groups (Experts are not present)	The main moderator gathers all Experts at one place. The group moderators stay with the Audience.
15 min	Experts re-join the groups and discussion is continued	Audience present their answers to the Experts.
5 min	Preparation for ex changing group out comes	Audience members visit other groups and learn about the questions they were working on and the course of their discussions. Each group selects one person who will stay at the table together with the Expert and group moderator to present their work. The other people from the group split up into at least two "delegations" to visit other tables.
30 min	Group outcome exchange	Due to time limits, it might be impossible to exchange information between all groups. The outcome exchange is divided into three time slots. Each lasts for 10 minutes. During each slot groups send out their "delegations" to other tables. "Delegations" meet with the Expert, moderator and a group representative. The delegations should make sure they visit different tables in each timeslot. The group representatives have 10 minutes to present the expert's question and the discussion outcome to the visiting "delegations". After three visits, each delegation comes back to their original table.

Duration	Activity	Details
10 min	Short break	After approx. 105 minutes
15 min	The delegations report	Delegations share the information they gathered with everyone in their group and decide whether what they learned influences the discussion about their own expert questions
15 min	Preparation of recommendations	Each group moderator should re-introduce the expert question and the main case study which was presented at the beginning of the meeting. Then the Audience should prepare recommendations which should refer to the main case study and reflect the expert question and discussion outcome. The outcome worked out by other teams may affect the final recommendations, but not necessarily so. At the end the group must choose the two most important recommendations they want to present to others.
15 min	Exchange of recommendations and final voting	Each group writes down two chosen recommendations and displays them on the table together with the expert question. Then every Audience member and each Expert receives stickers (the same quantity per person). Next, each of these individuals has to visit all other tables to read the questions and the recommendations written there, while the group moderators continue to remain near their "home" tables. At the end, each person Audience member and each Expert should vote for the recommendations they find the most important/suitable in reference to the main case study (i.e. by placing their stickers next to those recommendations).
10 min	Presentation of top 5-10 recommendations	The Audience and Experts come back to their tables. The result of the voting is presented by the main moderator.
10 min	Evaluation	Filling the evaluation questionnaire
---	Time for free discussions	This time is not included in event duration. This is an extra hour we recommend to keep the catering working and the venue open to let people spend some time together and talk informally

APPENDIX II:
COMMUNICATION SWOT ANALYSIS

STRENGTHS

The form itself can be appealing (to people interested in science / communicating science, to public event organisations, etc.).

We doubt that the media might get interested just for the sake of a unique form, but: when "Experts of different backgrounds meet" – the positive clash between them can be of some interest to the media, as can their individual stories (try to make sure your experts have their own stories that have not yet been exploited in the media).

Make use of your natural public – campaign amongst the visitors of your science centre, they can be a real strength in the project.

WEAKNESSES

Attracting so-called 'normal people' is a real challenge. How to prevent a situation in which no Audience shows up at the event? Look at the "Strengths & Opportunities" listed here, but at the same time:

Find some supporters of your event idea amongst friends – they can form your back-up system.

Bear in mind that the entirely new format of the event might even scare off 'normal people', who may prefer safer situations. If you are sure you want to focus on the form in your communication, make sure your message is going out to open-minded people, veterans of innovative activism.

The Audience will not only be getting something out of it – consider the opposite perspective as well: they will be sacrificing their free time to offer some explanations to the Experts. But try to actively avoid this kind of narrative: don't overly advertise that you need them, or that the Experts need them.

OPPORTUNITIES

Take time – prepare to reach out to the Audience in advance. The more 'average' you design your public to be, the earlier you should start advertising. But even if you choose a very specific target group (representatives of patient's organisations, etc.) you'll still need time.

Reaching out to the right leader of opinion can hugely save time – try to influence the most active persons of the given group first, and then reach out to the followers.

Focus heavy on gains: different Audience members may view their interests in taking part differently. Ask yourself questions about what kind of emotion/interest you would like to trigger. Will it be snobbery, curiosity for stories or curiosity for science, or maybe activism? Choose one. The Internet is the best way to advertise.

Our advice is to pick up several opinion leaders and try to use them as your channels of communication, e.g. you may spot FB groups of people interested in medicine or gathering together patients – contact their admins and talk them into supporting your idea.

THREATS

Communicate things simply: although the project may seem intricate and involve many actors and interests, try to find one central view and be consequent in communicating it to the public. Will it be the unique form (experts questioning 'normal' people) or the special topic (stuffing diapers with hi-tech)? Focus on one view.

The major threat in the project is that people won't get the message, and this will happen if the message is too complicated.

Do not promise what you cannot deliver: don't tell people they will actually have a real influence on certain processes – this is not the aim of the meeting, but rather exchanging ideas and trying to influence someone's point of views.

COMPULSORY ACTIVITY: SCIENCE ESPRESSO

FACT SHEET

GENERAL DESCRIPTION	Short talks and informal discussions that can be done at the Sparks exhibition or in other public spaces. Designed with small groups and open attendance in mind.
PARTICIPANTS – TARGET GROUPS	Visitors of the exhibition or of another selected venue. Most probably with little previous knowledge on the presented topics.
RRI CONTEXT	The Science Espresso (SE) involves experts and specialists representing different policy agendas or processes of RRI and creates an opportunity for the public to meet such experts out of their professional context and talk with them in an informal manner.
EXPECTED OUTCOME	New personal connections between experts and audience, building trust and openness to dialogue.
PREPARATIONS	Ideally the preparation should start 2 months before exhibition opening and all Science Espressos should be held during the exhibition period. The topics and experts for these events can be developed simultaneously to the topics of the Reversed Science Café. **Main steps to follow:** Involvement of experts, preparing communication and preparing the venue and logistics.
LEADING THEME DEVELOPMENT	Each Science Espresso has its own theme – coming from the expert invited to talk and discuss with the public and relevant to the general project theme. Highly recommended for the topics chosen to extend or complement the issues presented in the exhibition.
EXPERTS	Researchers/innovators (ideally ones whose work is presented in the local case study) and specialists covering different policy agendas of RRI or being involved in one of the RRI processes. Each Science Espresso should be a meeting with a different expert. Ideally each expert represents a different field and has curiosity for the audience's opinion about their work, openness to presenting it and discussing it with the "lay" public.
FORMAT IN NUMBERS	**Number of events**: 6 **Duration of event**: around 30 minutes **Audience**: small, but diverse groups **Age group of audience**: 12+ **Experts**: 1 for each Espresso (6 in total)

VENUE	Ideally each SE will be held at the Sparks exhibition event space, although other venues are possible. Public spaces where a potential audience is already present are recommended (cafés, hospitals, parks). The set-up of the venue should facilitate informal discussion.
CATERING	Optional
RESOURCES	**Staff for each event**: Main coordinator of the event, 1 facilitator, 1 Expert, 1 IT & audio assistant **Equipment**: Microphones and a screen or projector if the expert wants to present multimedia
TYPICAL TIME FRAME	Between 30 and 60 minutes – a small part of this time is reserved for a short talk by the expert, the rest for informal discussion.
RUNNING THE EVENT	The facilitator gathers a group of participants inviting them to listen to a talk and meet the expert. The expert gives a talk, trying to highlight potential issues to discuss. After that, together with the facilitator, they engage in informal conversation with participants. New people can join the event while it is underway.

LET'S BEGIN FROM THE BEGINNING

Science Espressos (SE) are short meetings directed to the general public who wants to attend participatory science communication events and in which one expert briefs participants on some topic, gives a comment and evokes a discussion.

The idea of a Science Espresso is to enable dialogue between the general public and experts representing different areas of research and other science-bound aspects of social interactions. **One of the crucial assumptions of this type of event is for the discussion to be kept less formal and consisting of smaller groups.**

SE should be approximately half an hour long, but not more than hour. We suggest that the meeting should be divided into two parts. The first is the expert's presentation on the chosen topic. The second is the time for discussion and questions.

During the Sparks project, each local organiser has to run six Science Espressos. Further, the obligatory participatory activities in the Sparks project should be attended by a minimum of 150 participants (in total, for the RSC and for all SEs). Our suggestion is to organise each Science Espresso meeting for a group of 15-20 people.

In the Sparks exhibition there is a space dedicated specially to these events. It is not obligatory to hold them there, but in our opinion, the exhibition and the event format supplement and correspond with each other. That is why we suggest organising the SEs during the exhibition's presence in your country.

Science Espressos (SE) are short meetings directed to the general public who wants to attend participatory science communication events and in which one expert briefs participants on some topic, gives a comment and evokes a discussion.

SETTING A SCIENCE EXPRESSO

TOPICS SELECTION

The idea of "technology shifts' impact on medical sciences and healthcare" is a very broad topic. Together with your local partners you should identify what areas are most essential and correspond the best to the needs of your country. Next, you should decide, in agreement with invited experts, what tangible topics shoulad be discussed during the SEs. It is good to assume that during the assigned time it is possible to discuss that the chosen subject represents just one perspective on the RRI concept.

Linking between the SE themes and the exhibition thematic areas is expected. It would be highly recommended for the topics chosen to be complementary, supplementing or extending the topics narrated in the exhibition.

There are several possible directions that questions or topics may take.

- Sharing something interesting, some revolutionary aspect of conducted research.
- Requesting an opinion, for example: do visitors see merit in such research topics, and why or why not.
- You may also allow for completely free interaction. In this version the public needs to be given some basic information about the expert's work (their specialization for example). This kind of interaction makes for a good match with experts who are very open, socially skilled individuals, curious about others' opinions.
- The expert may also talk about why they decided to study for example epilepsy.

EXPERTS

Finding proper experts is important for holding an effective Science Espresso. They crucially need to be highly qualified, well-prepared, and ready to listen to the participants' opinions.

We suggest inviting experts who specialize in different areas with respect to the main RRI key components.

AUDIENCE

The Science Espresso is a format which is supposed to be inclusive and open for the general public. Of course, as all Sparks' activities, it is dedicated to people over the age of 12, so you should not run it as an activity for younger children. If the event is performed at a science centre or museum, we suggest inviting people who are currently visiting your venue. However, if you decide for this option, it is worth planning the SEs on the days and hours when adult visitors are present in greater numbers and please add a few extra minutes for gathering them.

MODERATOR

One person is needed to moderate the meeting and assist the expert. Her or his main role is to support the specialist and facilitate the discussion if needed, e.g. to suggest questions that can be asked, to direct discussion towards the point of view of an ordinary person, such as how this re-search will affect society, what its ethical context is, how it might impact on the lives of participants, and in which cases.

MAIN ASSUMPTIONS OF THIS METHOD

- Participants must be briefed on the topic you want to discuss. (Assume that there may be people who know nothing about the presented issue).
- Specialists initiate discussions (e.g. by asking a question).
- This meeting should last approx. half an hour, so briefing and discussion should not go into too much detail.

EXPECTED OUTCOME

- New personal connections between experts and audience, building trust and openness to dialogue.

GETTING READY

We recommend that preparations should start at least two months before the first event. This will give you the chance to reserve the date in the experts' schedules, find and arrange an attractive venue (if not using the space in the exhibition).

CHECKLIST:
Before the round of events:

- Organising meetings of a local consortium to discuss proposed topics.
- Search for experts and establish contact with them.
- Preparation of contracts if necessary
- PR and promotion of your event
- Reservation and preparation of venue
- Catering organisation
- Financial control
- Preparing the necessary equipment
- Providing of IT & audio equipment and services – beamer, computer, internet connection in the chosen venue, loudspeaker system (with microphones)

PREPARATIONS WITH EXPERTS

As in the RSC, **the first contact is crucial. That is why we suggest introducing experts to the SE concept during a face-to-face meeting.** As it is not always possible, at least a phone conversation should be performed. Sending the individual back a set of minutes or a summary after the talk would be very helpful to keep the message clear.

In the course of this conversation, you should present the benefits of such direct contact with the audience. In the experience of the Copernicus Science Centre, they know that scientists rarely have the opportunity to learn about the opinions of ordinary people and get to know their point of view. **Some experts also want to share their work with others, considering this to be part of the work of a scientist but lacking the right space to do so.**

In the very beginning, the experts propose a few topics they would like to present and discuss with participants. Their propositions should:

- Reflect their specialization.
- Refer to the idea of RRI.
- Linking between the SE topics and the exhibition thematic areas would be expected.

Preparation of topics is an ongoing process, in which you and your local partners should be continually involved. Your task is to support the experts in specifying and clarifying what they are going to present.

PREPARING THE VENUE AND CATERING

We recommend for each Science Espresso to be held in the Sparks exhibition event space. If this is not possible for some reason, the venue chosen should be appropriately arranged to give it a more informal look (e.g. by setting chairs in a circle).

If the consumption of beverages and snacks is permitted in the exhibition space. it is worth it to make catering a part of the message we want to send to participants. If we talk about health, we should provide healthy food and drinks. If possible, we suggest that snacks and drinks should be provided in the form of a buffet in the venue with easy access for all participants during the whole meeting. If you decide to have catering, for instance simple drinks and poultry snacks should suffice. Catering is not an essential element for this activity and can be omitted without compromising the quality of the SE.

If the SE is held in the exhibition space, the use of a sound system is especially important to keep the meeting comfortable. However, the sound level should be chosen so that the expert is heard within a radius of 3-5 metres but no further.

A few items which might be helpful during the event (in addition to any equipment for venue organisation or catering service):

- Computer, beamer & screen
- Loudspeaker system
- Flipchart board with paper
- Felt-pens/flipchart markers
- Stickers

After the event don't forget to:

- Square financial accounts for event-related expenses
- Report preparation based on the template given by KEA partners (and included in the handbook)

OPTIONAL ACTIVITY: POP-UP SCIENCE SHOP

FACT SHEET

GENERAL DESCRIPTION	Science Shops mediate between citizens, citizen groups and research institutions. 'The Pop-up Science Shop' in Sparks refers to the way civil society's requests and problems can be transferred into a research setup and be linked to experts in Sparks' local partnerships. Citizens are called clients, in the context of the "shop". The methodology is described for 3 different levels: * **Sparks Level A** describes the minimum activities and results expected from applying the Science Shop methodology during the exhibition period. * **Sparks Level B** is expected to be initiated and implemented during the exhibition period together with local experts/local community of practice. * **Sparks Level C** is when research stemming from Pop-up Science Shops in Sparks is likely to last beyond the project's lifetime.
PARTICIPANTS – TARGET GROUPS	The activity is not connected to a specific event but runs throughout the whole exhibition period. All visitors of the exhibition – and an even broader audience, depending on the media activities of the local organiser – will be asked to express their requests, needs and concerns. This may include: citizens & local associations, researchers and scientists, local experts, students, policy makers, administration and civil servants, technical experts, SMEs, business people.
RRI CONTEXT	Science Shops can be seen as valuable and experienced actors to bridge the gap between research and society and mediate mutual learning and cooperation processes. Engaging different groups and organisations in dialogue and development processes reflects the idea of responsiveness and diversity. The research question development is based on anticipation, reflection, adaptation and reflectivity. The openness and transparency are obvious rules in outcome dissemination.
EXPECTED OUTCOME	Questions, concerns and requests from citizens, civil society organisations (CSOs) and other stakeholders are rephrased into topics and questions to be worked on or processed in scientific research. Researchers or students under the supervision of a professor then perform the research. The research will lead to a report (or other product) which is made public and will be of use to the client.
PREPARATIONS	• Mention the project's interest in generating research questions from visitors, or people that take part in its participatory activities. • Introduce the idea of the Science Shop methodology and its possible impact in the local community. • Emphasize the chance to express research needs, concerns or requests • Develop new or customize existing tools for collecting open questions, requests and concerns from visitors and participants of the project. • A facilitator to underline the opportunity to express requests. • Calculate the time to convince possible local partners to cooperate already when developing local partnerships.

RESEARCH QUESTION DEVELOPMENT	The 'intake' of the question is very important – finding out the question-be-hind-the-question, checking what information or hypotheses the persons asking the question may already have (Sparks Level A). Select, edit, and translate questions or topics to be further elaborated. In an initial meeting, the research objectives and time frame are agreed, expectations managed, and sources of knowledge identified. The CSO participates in the sounding-board of the project (Sparks Level A).
EXPERTS	• To find a supervisor and a researcher/student, you have to promote the idea of piloting or experimenting with participatory approaches. • Find researchers to participate and create commitment. They should be invited to join the local group of experts (Sparks Level B-C) .
FORMAT IN NUMBERS	It varies, depending the scope of the question.
VENUE	Create a contact point for visitors to ask/place their questions/concerns/requests and provide a venue for a meeting with clients, researchers and stakeholders to further discuss their issue.
CATERING	No catering needed – although it's nice to offer a coffee when you invite the client to your office.
RESOURCES	**Staff**: One contact person from the local organiser as mediator of the process and students or researchers working on the research question. **Equipment**: Collect questions through a blackboard or a pinboard where participants either fill in a form or freely express their topic. Setting up a letter box or just providing a telephone number or e-mail address might work as well. If appropriate, make use of online dialogue tools developed for the exhibition (Sparks Level A).
TYPICAL TIME FRAME	When running the Science Shop activity from level A to C embedded in an already working infrastructure, projects may be set up in a time frame of about 3 months, though the availability of students may prolong the time frame by another 6-12 months.
RUNNING THE EVENT	**Pop-up Science Shop Level A**: Organise a first meeting with clients to understand the problem and shape the research question. Organise a second meeting with clients and local experts and stakeholders to work out a final shape of the research question. **Pop-up Science Shop Level B**: Find a researcher/student: 6 weeks of research or longer should be planned for working on the questions, depending on the problem/research question. Organise follow-up meetings with clients, local experts and stakeholders to update on process, reporting and dissemination. Present your results and evaluate your outcomes and findings. **Pop-up Science Shop Level C**: Support clients in implementing results and recommendations. Formulate follow-up actions and run an evaluation .
	There are 6 Appendices at the end of this chapter, with templates and examples that will be useful to have a meaningful Pop-up Science Shop experience.

LET'S BEGIN FROM THE BEGINNING

Using this participatory activity in Sparks allows for a limited in time experimentation on how new and different approaches in research-society communication and interaction can be combined.

With the term 'Science Shop' we will refer to the methodology, the way civil society's requests and problems can be transferred into a research set up and be linked to experts in Sparks' local partnerships. Public Participation in Research through a Pop-up Science Shop is based on Science Shops' methodology of transferring requests from community groups to research organisations.

Local organisers that choose this activity will identify researchers willing to cooperate —meaning reading the questions received and reflecting on how to process them — as well as create commitment to ensure that they are formulated as research questions, transferred to researchers and followed up until a certain time after the activity. Using this participatory activity in Sparks allows for a limited in time experimentation on how new and different approaches in research-society communication and interaction can be combined. The Science Shop 'pops up' only for the duration of the exhibition.

A major requirement of the Sparks project is to facilitate discussion, prompt reflection, pose questions and share insights and opinions. The project does not want to create an oppositional debate with right and wrong answers or to reduce complex issues into simple facts and figures nor to develop an organisational structure for this mediation process within a research organisation. It is intended to enable people to comment and participate in ways that acknowledge the complexity and subtlety of the issues they are engaging with.

Thus the exhibition subject allows many important and pertinent questions to be raised – social, political and ethical – with regards to how the medical sciences are practiced, how innovation is encouraged, and about who is involved in the research process.

Sparks' Pop-up Science Shops aim at encouraging citizens to actively participate in science by formulating research requests and initiating the dynamics of community-based research to translate citizens and other stakeholders' issues into research questions, mobilising them to feed science and research with their real needs, expectations and ideas.

The Pop-up Science Shop activity will feed, complement and extend the exhibition, also providing experiences for Science Museums and Science Event organisers to engage with the general public at a deeper level.

More information about Science Shops at www.livingknowledge.org or more detailed in the Science Shop Toolbox offers a series of documents for download.

This brings together relevant documentation on Science Shop procedures, processes and guidelines, including:

A - Community Based Research
B - Science Shop Administration
C - Public Awareness
D - Preparing a Science Shop project
E - Carrying out a Science Shop project
F – Writing / Publication of a Science Shop Project

Science Shops as a way of transferring knowledge are innovative and effective and have a positive impact both on research and on civil society. They mediate between citizens / citizen groups and research institutions. These days many but not all Science Shops have structural links to universities and use the work of students under appropriate supervision to respond to the needs of civil society (mostly NGOs). This provides a symbiotic relationship between these two communities.

Science Shops operate under different names and in different ways throughout Europe and worldwide. What they share is that research is done on the basis of concerns of civil society, and that projects are governed in a partnership between civil society organisations (CSOs) and research institutes.

Science Shops as a way of transferring knowledge are innovative and effective and have a positive impact both on research and on civil society.

An example:

MISSING A PILL: SKIP IT, OR CATCH UP?

Pharmacists often find it hard to say whether a missed dosage should be compensated for or not. Students did research on a number of different medicines, for e.g. epilepsy, diabetes, asthma, cholesterol, pain, and more. Six articles were published.

(Science Shop Pharmacy, Groningen)

You will find more thriving examples in Appendix 6, at the end of this chapter!

SCIENCE SHOPS AND RRI: AN OVERVIEW

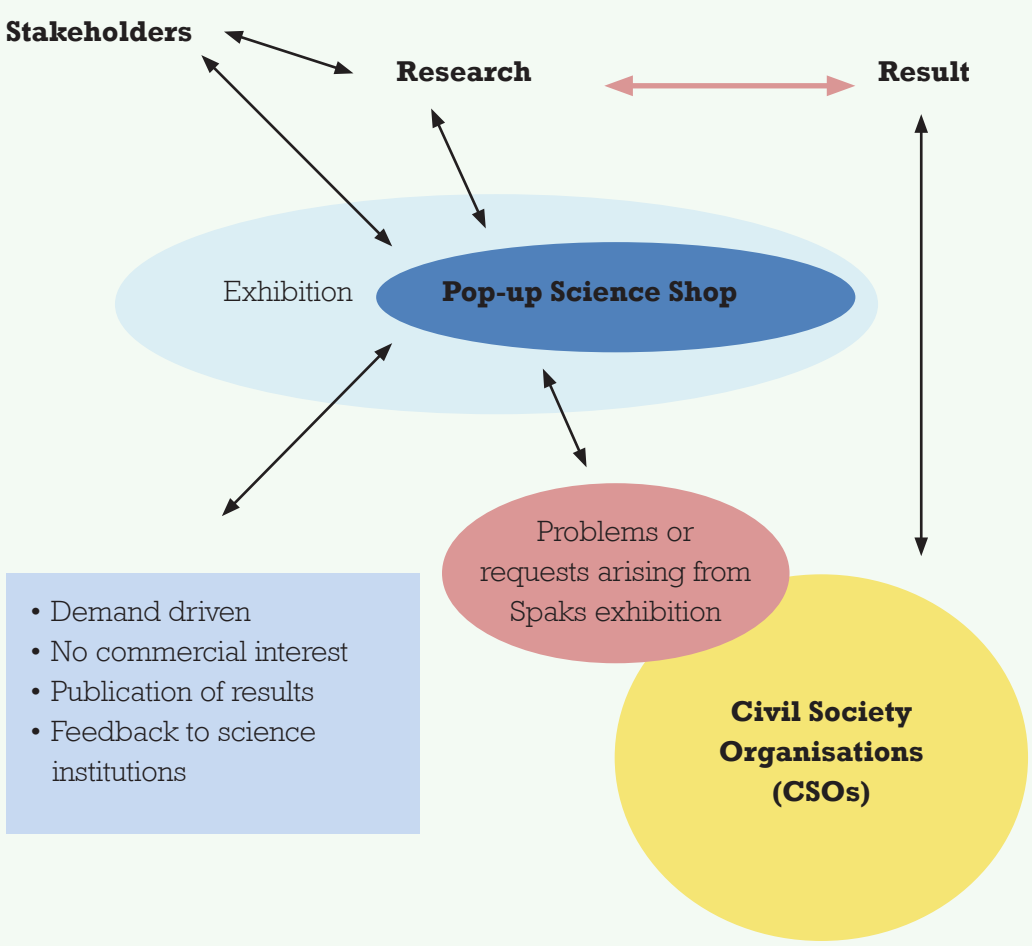
Adapted from www.livingknowledge.org & WILA Bonn e.V.

SETTING A SCIENCE SHOP

A Science Shop (is a unit that) provides independent participatory research support in response to concerns expressed by civil society.

CSO members can participate as a researcher themselves, or the CSOs perform the whole research, with some methodological support from researchers. Through Science Shops, CSOs have a direct say on the course of the research (or 'the research agenda') and are allowed full access to and use of the results.

A Science Shop (is a unit that) provides independent participatory research support in response to concerns expressed by civil society.



Remade from the chart at www.livingknowledge.org

In setting up projects, existing research results will be discussed with all relevant stakeholders prior to starting the new research. Some questions from CSOs can also be initiated by their concerns about previous research findings. Also, after the research is concluded, its results are discussed. The researchers benefit from the contextual knowledge of the CSOs as well; thus, there is an interaction and joint development of new knowledge.

There are some general criteria for accepting a request that usually apply:

- There must be a scientific element in the request/problem
- It needs to be of general public interest, or the question must be relevant to a number of people
- The client is able to use the results
- The results have to be published
- There should be no commercial interest driving the request

EXPECTED OUTCOME

It is expected that numerous raw and un-edited and un-translated questions and requests will be received, through follow ups from the different participatory activities, such as the Reversed Science Café, the Science Espressos, the exhibition itself or the exchange within the local partnerships.

Announcing through your local communication channels that there is an opportunity to submit questions during the exhibition might lead to input as well.

At least 10 questions should be further elaborated with clients.

Please keep in mind to communicate to clients if and why it was not possible to consider their questions for prompt research. Discuss options for further processes after the exhibition or project period.

At least 2-3 questions should be processed through a research and their results reported.

THE MAIN ASSUMPTIONS OF THIS METHOD

- Questions, concerns and requests from civil society organisations (CSOs) are rephrased into topics and questions to be worked on or processed in scientific research.
- A researcher or student, under supervision of a professor, then performs the research.
- The research will lead to a report (or other product) which is made to be of use to the client.

In the following the methodology is arranged and described in 3 different levels of implementation:

* **Sparks Level A** describes the minimum activities and results expected from applying the Science Shop methodology during the exhibition period.

* **Sparks Level B** is expected to be initiated and implemented during the exhibition period together with local experts / local community of practice. The time needed to fulfil these steps might need to be continued after the exhibition period.

* **Sparks Level C** activities are not expected to be performed during the Sparks project period. Research stemming from Pop-up Science Shops in Sparks is likely to last beyond the project's lifetime. Nevertheless, if Sparks is intended to be the test field for pilots on new ways of engaging public audiences in a wide-ranging conversation around the medical sciences and about wider public involvement in the research and innovation process, it is clearly recommended to continue with and finish Level C activities.

SPARKS LEVEL A*

- Receive/solicit clients and (societally relevant) questions
- Together with client, articulate the problem (map the situation)
- Perform preliminary research as to whether the question is already answered somewhere, or if there is any societal relevance. This preliminary research then will lead to a refusal or a reference, a short advice for the client or and uptake as scientific research question

SPARKS LEVEL B*

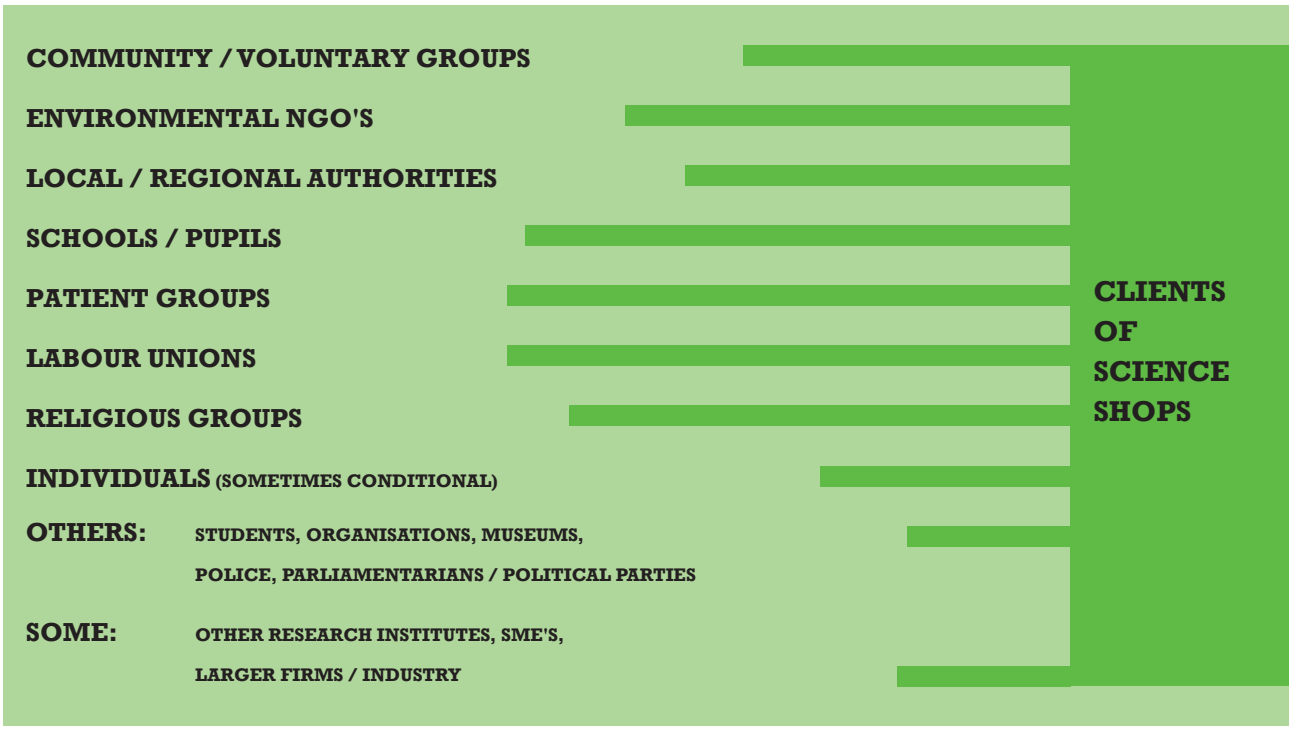
- Find a scientific (co-)supervisor and/or suitable course/practical/ thesis period at your local university of partnered research organisation
- Find a student (+ options for credit points) or researcher (+ funds if required)
- Maintain the communication and process, from the start to the end of the research process
- Facilitate a useable presentation/ publication of the results (popular report, brochure, website, seminar, press release, etc.)

SPARKS LEVEL C*

- Support your client in implementing the research results and give recommendations and/or formulate follow-up actions (stakeholder meetings, legal procedures, conferences, follow-up research proposals)
- Make an inventory of possibilities for follow-up research or new research themes (options for scientific publications, interesting themes for further research (programs))
- Evaluate the process (with student, supervisor and client)

To answer many questions or questions that are less easily transferred into a research project is to give a scientific opinion or reflection from a certain angle on the question. This can be done instead of doing actual research, if time or supply of research capacity is unfavourable, or if the question does not lend itself to research, for instance because it is too broad.

The University of Groningen has done so in a project to answer 400 questions in 400 days, as a step-up to their 400 year anniversary



Remade from the chart at www.livingknowledge.org

GETTING READY

Science shops need preparation time to identify researchers willing to co-operate (means to read the questions and think about how to process them). It is necessary to create commitment here not only to create the questions but also get them into researchers' hands (for the period of the activity of the Pop-up Science Shop and a certain time after).

CHANCES AND OPPORTUNITIES OF THE SCIENCE SHOP METHODOLOGY

- Researchers facilitate the scientific approach
- Researchers produce (neutral) knowledge
- Researchers teach and educate
- Researchers have access to better resources
- Researchers have a better state of knowledge
- Researchers stand for systematic analyses, sceptical attitude, accountability, independency
- Funding awards are more and more depending on a flow of information to the public
- Addressing the public has become more popular with researchers
- Science Shops are ahead of researchers in addressing the public

(Please see Appendix 6)

STEPS TO BE UNDERTAKEN (SEE ALSO APPENDIX 2):

- Contact your local partners (Sparks Level A-B).
- Explain the idea of Sparks, the exhibition and its topics and which role you and your institution have in this project (Sparks Level A-B).
- Mention the project's interest in generating research questions from questions and problems expressed and experienced by visitors who come to the exhibition or take part in its participatory activities (Sparks Level A-B).
- Introduce the details of the idea of the Science Shop methodology and what impact it might have in the local community (you can ask for support material from Bonn Science Shop, livingknowledge@wilabonn.de) (Sparks Level A).
- Emphasize the chance to express research needs, concerns or requests and introduce this opportunity to your local community groups (e.g. patient's groups, health insurance companies, health service suppliers as well as community administration or researchers). This should also be mentioned in your promotional material for the exhibition. Develop new or customize existing tools for collecting open questions, requests and concerns from visitors and participants of the other project activities such as the Reversed Science Café, the exhibition itself and the Science Espressos (Sparks Level A-B-C).
- This can be done through a blackboard or a pin board where participants either fill in a form or freely express their topic. Setting up letter box or just providing a telephone number or e-mail address might work as well. If appropriate, make use of online dialogue tools developed for the exhibition. (See Appendix for a form to collect questions and suggestions) (Sparks Level A).
- A facilitator during the participatory events (Reversed Science Café, Science Espresso) can help to underline the opportunity to express requests. But please consider (and make clear) that this is not primarily intended to be about brainstorming about problems on the meta-level, but taking up real life problems and developing solutions for them.
- Make sure that participants understand that they have to provide contact details for their request to be further processed (Sparks Level A).
- The 'intake' of the question is very important, finding out the question-behind-the-question, and checking what information or hypotheses the persons asking the question may already have (Sparks Level A).
- Select, edit, and translate questions or topics to be further elaborated. This can be done also with the local group of experts or with the Sparks steering group. For the following process it might help to select questions according to the expertise of researchers willing to cooperate (Sparks Level A).
- To find a supervisor and a researcher/student, you have to promote the idea of piloting or experimenting

with participatory approaches for linking civil society and its concerns and questions with research resources (Sparks Level B).
- Find researchers (from health sector, but not exclusively) to participate. They should be invited to join the local group of experts (Sparks Level B-C).

The 'ideal' local expert to cooperate with when working with the Science Shop methodology:

- Has knowledge on health related topics
- Shows openness to questions from citizens
- Has the skills to reformulate the problems expressed into research questions
- Has access to research facilities
- Is able to involve students
- Is willing to supervise students

- Create commitment (Sparks Level B-C).
- Please keep in mind to communicate to clients if and why it was not possible to consider their questions for prompt research. Discuss options for further processes after the exhibition or project period (Sparks Level B-C).
- Set up a calendar for initial and feedback meetings and agree on communication channels with CSO and researcher (Sparks Level B-C).
- Hold face-to-face meetings with the CSO or person that submitted the chosen question and the researcher willing to work on the issue to articulate the research question and define the required expertise and time frame (Sparks Level B-C).
- Maintain communication and process during research – including beyond your exhibition period (Sparks Level B-C).
- Facilitate a useable presentation and/or publication of results (Sparks Level B).
- Remember to evaluate your activities (Sparks Level C).
- If possible, help the CSO/client to implement results and formulate follow-up actions (Sparks Level C).

WHAT IF...?

- *What if … a problem is urgent but too complex?*

With complex research questions or topics it can sometimes help to either split the question in smaller parts for various research proposals, or to enlarge the question to tackle the problem in its broader context (by which it gets more interesting for research and fulfils more learning experiences for students; i.e. include more theory).

Visit livingknowledge.org

- *What if … too many questions are submitted?*

The top priority of the Pop-up Science Shop in Sparks is to collect questions from visitors of the exhibition which can be transferred into research activity. One option for answering many questions or questions that are less easily transferred into a research project is to give a scientific opinion or reflection from a certain angle or perspective on the question. This can be done instead of doing actual research, if time or supply of research capacity is unfavourable, or if the question does not lend itself to research, for instance because it is too broad. This was done, for example, in Groningen university's project to answer 400 questions in 400 days.

- *What if ... the research takes too long for the intended period of activity in Sparks?*

The research can also be done outside of the project activities. Be aware that conditions might apply that can't be influenced by the project management (researchers are under time pressure and/or not used to target solutions or practical use, student work might be voluntary, the academic year might not fit into the exhibition period, or examination schedules might not fit into project time schedule).

ARGUMENTS TO CONVINCE LOCAL EXPERTS TO COOPERATE

Enhanced learning for students: The student will have gained valuable skills (problem definition, project based working, communicating, planning).

Case materials/networking for researchers:
The professor and/or the researcher will have case material for either direct publication or further theoretical analysis. Moreover, for the professor involved this supervision is part of the teaching obligation.

So, in fact all actors are doing what they are supposed to do: teaching, learning and researching. This is why the Science Shop Methodology can be implemented at relatively low additional costs.

When experimenting with the Pop-up Science Shop, consider how it will connect to *all* existing policies and strategies in the research organisation.

PR and social responsibility for institute:
Taking up societal needs underlines the social responsibility of the research institute and can be used for Public Relation activities and outreach. Argue that Science Shops meet the needs of HEIs (curriculum development, student skills and employability, research impact, science communication, and societal needs) in a cost effective way.

BOTTLENECKS AND PROBLEMS WHEN CONSIDERING SCIENCE SHOPS

- Researchers are under a constant time pressure
- Classical research has to lead to publications
- Most of the Science Shop projects contribute "only" to "grey" literature
- Projects might be seen as based on a practical problem rather than on a scientific problem
- Smaller projects are not attractive – universities are more interested in "big projects" with a high amount of external funding and co-operation with companies and governmental institutions
- Researchers generally only describe problems and do not target solutions or practical use
- Researchers speak their own language
- Researchers often have trouble keeping to time schedules
- If students do not get credit points for the research, they will have to do it as a voluntary project
- Students as researchers have their own 'timelines' and obligations
- Students are allowed to make mistakes

STRENGTHS WHEN CONSIDERING SCIENCE SHOPS

- Working on real life problems allows for enhanced learning for students
- The questions and requests deliver case materials/networking possibilities for researchers
- Working on community problems supports the PR of the research-performing institute and demonstrates its social responsibility
- The CSO can have varying degrees of involvement in the research process.
- The research can be done in the curricula, so there are low costs.

Helpdesk for local organisers through Living Knowledge Network (via WilaBonn, norbert.steinhaus@wilabonn.de, livingknowledge@wilabonn.de), Training available at Living Knowledge Summer School in June 2016 in Dublin (additional trainings to be confirmed), Mediation of contacts to researchers (or students) through local organisers

APPENDIX I:
SUBMIT A QUESTION

Please fill in this form (Individuals don't have to answer questions 2-4). You can either leave this form at the exhibition desk or send it to [enter address of local organiser]

The local organiser has to decide how to design this form and how to submit this form (e-mail, download from local organisers' website, postal address)

1. **Contact person**
   Name:
   Phone: Email:

2. **Organisation**
   Name of organisation:
   Address:
   Phone: Email: Website:

3. **Which is the main field of activity your organisation is working in?**

4. **Please describe your organisation and its key objectives.**

5. **What is your question?**

6. **What's the context of the demand?**

7. **What is the expected outcome? How will you use the results?**

8. **Is there a deadline for the answer to your question?**
   No
   Yes:

9. **Do you have resources available to support the research on your question?**

10. **Do you agree that the results will be published?**
    Yes
    No because:

11. **Comments**

Variation for submitting questions and leaving them on e.g. a pin board in the exhibition space (this e.g. can be supplied by the local organiser on prepared cards)

Your question – your comment
Please write some lines about the background and context of your question

If you want to be contacted, please leave contact details

APPENDIX II:
SCIENCE SHOP PROJECT MEDIATION PROCESS

Project phase	Description	Process	Process	People
Initiation	Client and Science Shop communicate about potential request. Intake	Intake question	Written request	P, C, A
		Match with project - coordinator	Project number, dossier	P, C
Definition	Request will be framed and articulated. Intake meeting. Check with criteria for Science Shop projects. First thought about project results and dissemination.	Intake meeting	Report of meeting	
		Brainstorm on project results and dissemination	Overview contacts, ideas and options	
Concept	Preliminary research to assess research needs, options and opportunities	Scientific exploration of research options, including through literature review and expert judgements	Report of preliminary research and basic information (literature, experts and networks)	P
		Check for research options in the curriculum, recruitment of scientific supervisor	Scientific supervisor	P, S
		Preparation of draft project proposal	Draft project proposal	P, C, S
Preparation	Preparation of documentation and contacts to start the research	Recruitment and selection of researcher	Researcher(s)	R, P, S
		Discussion (and modification) of project proposal	Project proposal (incl. planning)	R, P, C, S
		Discussion of project conditions (costs, time frame etc.)	Agreement (including conditions)	R, P, C, S
		Discussion project expectations	Project proposal (including students motivation)	R, P, C, S

Project phase	Description	Process	Process	People
Realisation	Conducting the research and writing a final report.	Progress meetings	Progress reports	R, P, C, S,
		Reporting	Draft project report	R, P, C, S,
		Final Report or other product Editing and layout Reproduction	Final Report or other product	R, P, A
Finalization	Publication and dissemination of project results. Evaluation of project process and results	Evaluation (process, content, usability), assessment of student, publicity, dissemination and follow-up	Evaluation report, mark for student	R, P, C, S
		Publicity	Press release or other announcement in media	R, P, C, S, A
		Finalizing project files	Dossier cleaned and closed	P, A

A = Administration Science Shop
C = Client
P = Project coordinator Science Shop
R = Researcher (student or paid)
S = Scientific supervisor

APPENDIX III: PRINCIPLES OF SMALL-SCALE RESEARCH

Applied research on the small-scale with limited resources works well through a model of partnership with the service provider. How that partnership is worked out in practice leaves room for negotiation and for applying different models of collaboration and participation in the research. These 10 key principles can be elucidated as guidelines for the process:

1. *Partnering*
The research is based on collaboration between equals – researchers and organisation members. The relationship is one of mutual benefit. The research is conducted by negotiation, with respect being given to organisational goals and ethos and to the needs of the researchers and the researched.

2. *Researcher's role*
The researcher's role is largely that of an independent consultant, but with the flexibility to become a participant when the study requires this. The role involves collaboration with stakeholders to ensure that their interests and priorities are covered within the study.

3. *Research for development*
Because of its limited scale, small-scale research is less concerned with impact according to quantitative/monetary standards, and more concerned with service improvement through recommendations for manageable change.

4. *Research for use*
The research is designed to be used by an organisation to change its practice. It is not primarily evaluation for theory, and it is not research which exploits an organisation to collect data for academic publications without benefit to the organisation.

5. *Ethics*
The research should involve ethical decision-making through all its stages, with due adherence to professional codes and guidelines, and sensitivity to the resolving of dilemmas.

6. *Scale*
The research is small-scale and conducted usually in one or two locations, often with a small team of researchers providing feedback on the experience of a program, from the viewpoint of stakeholders. Feasibility studies in local neighbourhoods can also be conducted to help with service development. The research will be conducted over the course of a few months, usually by part-time researchers.

7. Resources

Monetary resources from organisations are likely to be limited to expenses (where students or volunteers are involved) along with the provision in kind of office space, computer access, photocopying or printing facilities, where these are available. The researchers provide research expertise and communication input.

8. Rights to the report

The details of rights to the report need to be covered in the negotiations, but broadly the organisation would normally receive the report with the right to disseminate it in full or part (with acknowledgement of authorship). Researchers and student supervisors should retain publication rights, which may include a proviso for informed consent from the organisation.

9. Experiential learning

The research should be a learning experience for all partners, with researchers acknowledging the expertise and wisdom of organisational members, and organisational members respecting the competency and knowledge of the evaluators. The research should be part of a reflective process, with researchers conducting their work with self-awareness and through regular contact with the people sponsoring the study.

10. Students

Where the research is being conducted by students, it will be assessed through clear criteria which have been made available at the start of the project. Students will have a right to regular supervision from their University and to support from the organisation. Students will be acting as representatives of the University in the community, and will conduct themselves appropriately. Students also have the right to a safe environment.

(Adapted from Hall I and Hall D [2004] Evaluation and Social Research, Palgrave Macmillan)

APPENDIX IV A:
STATEMENT OF AGREEMENT

Hereby it is agreed that research will be conducted, in connection with the Sparks Pop-up Science Shop, a research is conducted.

The research design is based on an application submitted by: [name of the organisation] located at [street number, postal code, place], and represented by [name contact person] in his/her function as [function person], from now on referred to as <the client>.

The research will be carried out by: [name student], from now on referred to as <the student researcher>. He/she is a student of the [name research organisation] and will conduct the research in the context of the study programme: […]

The research falls under the department: [name department], and is under the scientific supervision of: [name supervisor], from now on referred to as <the supervisor>.

For the Pop-up Science Shop, linked to the [name Sparks partner], [name] will act as a mediator.

The planned research period extends from: [month and year in which the research begins]; until [month and year in which the research is finished].

The student researcher hereby gives his/her permission to apply all property rights that are determined by copyright laws, including but not limited to: the reproduction of the resulting report/thesis, disseminating the results to the public and using them in a publication. The student receives no extra fee for this. The permission is not limited to any territory nor is it limited in time. However, acknowledgement of the author of the results is obligatory.

Any possible extension of the research or the expansion of the assignment will be the subject of an appendix hereto, approved and signed by all parties, and will come into effect on the date determined by the appendix in question.

The student researcher acknowledges and accepts that he/she cannot lay claim to any probably previously agreed fee if the research has not been finished and/or no research report (dissertation) has been delivered to the client and/or the dissertation does not meet the standards laid down by the university jury.

By signing, the parties below agree with the above provisions and also with the appendices that are an integral part of this statement of agreement
Agreed upon in [place] on [date]

For the student For the supervisor For the client For the Science Shop

APPENDIX IV B: AGREEMENT FOR RESEARCH

Sparks Pop-up Science Shop
[name of local organiser]
Applied Research Project

AGREEMENT FOR RESEARCH

The following is the outcome of a meeting on [date] between [name and organisation of contact person of Sparks partner], and [name(s)], students at the Department of [research organisation] and [contact name] of [CSO], [address], [telephone number & e-mail].
(All parties may comment on the agreement and if any section needs to be altered, a fresh agreement will be issued.)

1. **Project agreement**
between [name of student(s)] and [name and organisation of contact person of Sparks partner] and [contact name] of [voluntary organisation].

2. **Duration of project:**
The project will run from _____ to _____: fieldwork to be completed by _____ _____.

3. **About the organisation.**
[Name of organisation] is [*insert brief description*]. It was established in [year] in order to [*insert brief statement of aims and objectives*]. It aims to provide [*services for clients etc., noting any special characteristics, e.g. age, sex, disability*]. It is managed by [name of manager] with the assistance of [number of paid workers / volunteers], and is funded by [names of grant giving body or bodies].

4. **Issues identified**:
[Name of organisation] has identified a need for research on [*insert topic(s)*] in order to [*evaluate services, feasibility study, obtain funding etc.*] for [*type of clients etc.*].

5. **Proposed project**:
To [*insert project objectives*] by means of [*list of probable research methods and information providers*], and to report on findings [with recommendations (if appropriate)].

6. **Project outcome**:
[Name of student(s)] will produce a report to be available in draft form by [date] and in its final form in [date]. The report will be word-processed. [Name of organisation] will receive one copy of the report and have the right to use and copy the report as it wishes, with due acknowledgement being made to the students and to [name of research organisation].

7. **Permission to reproduce the report**:
The students and supervisor will have the right to use the report for academic publication, provided the [name of organisation] is first consulted, and has no objections.

8. **Attendance**:
[Name of student(s)] will commit [number of hours] per week to the project for fieldwork, analysis and writing reports.

9. **Expenses**:
The payment of travel expenses from the University to [place of research] will be provided by [name of organisation]. [Name of student(s)] will be responsible for keeping accurate records of all fieldwork journeys.

10. **Supervision**:
[name] will be available weekly for supervision throughout the course of the project. [Name of organisation contact] will be available for consultation by appointment during the fieldwork, and will expect to be consulted over questionnaires and interview schedules, and to be kept informed of progress.

11. **Confidentiality**:
[Name of student(s)] will respect the confidentiality of all information given and abide by the confidentiality procedures of [name of organisation]. Due attention will be given to the anonymity of informants, and the students will conduct the research in a sensitive manner.

12. **Health and Safety**:
The health and safety of students on placement is of paramount importance. [Name of student(s)] will on placement abide by and be covered by the health and safety procedures of [name of organisation], and the students will complete a safety assessment for fieldwork with the supervisor before engaging on their research.

13. **Acknowledgements**:
At any time when the report or any part of it is used, proper acknowledgement should be made to the students by name, to the [name of University] and to Interchange.

SIGNED _____

(Organisation)

SIGNED _____

(Students)

SIGNED _____

(Supervisor)

DATE _____

[A copy of this agreement will be sent to Sparks Partner]

APPENDIX V: PROJECT EXAMPLES FROM SCIENCE SHOP PROJECTS

Compiled by Dr. Henk Mulder in 2007-2010
Science Shop, Faculty of Natural Sciences, University of Groningen,
Nijenborgh 4,
9747 AG Groningen,
www.rug.nl/wewi,
h.a.j.mulder@rug.nl

These examples give a broad overview of projects carried out by Science Shops in the medical sciences, natural sciences and engineering. [1]

1 - The overview is randomly-selected, incomplete and based on information available on the websites of the Science Shops. When longer information was available in English, this was copy-pasted into this document. Copyright for these summaries is with the publishing Science Shops. The overview was made in 2007; a few examples were added in 2010. These examples can be used to illustrate the type of projects that Science Shops can do. This document can be shared, but is not to be officially published externally.

A. PROJECT EXAMPLES: SOCIAL MEDICINE

a.1 LIVING WITH FACIAL PARALYSIS: WHAT IS THE QUALITY OF LIFE?

A patient's association wanted research on quality of life factors for patients with facial paralysis. A group of 85 patients treated at the Plastic Surgery Clinic was interviewed. Most people were quite happy with the results of their treatment, though about 1/3 of the patients still avoid certain social events. A large group of patients developed a coping strategy that enables them to enjoy a good quality of life. This will be further investigated to be able to advise patients on different coping strategies.

(University of Groningen/University Medical Centre Groningen; Science Shop for Medicine and Public Health)

a.2
GLUTEN INTOLERANCE AND DIABETES TYPE I

Gluten intolerance and diabetes type I often come together (genetic association). Nutrition plays a large role in both diseases. The Dutch Coeliac Disease Association (DCA) wanted research into the quality of life for both patients and their partners. A questionnaire was used. Practical and social limitations were most present. Female patients scored higher on GSRS (Gastro-intestinal Symptom Rating Scale) and DSC-r (Diabetes Specific Complaints). Both male and female patients scored relatively low on quality-of-life appreciation compared to other patient groups (6.7 (SD1.7)). A large share of the female patients showed signs of depression (41.3%, based on CES-d Centre for Epidemiologic Studies Depression scale). Quality of life for partners is good. DCA can draw more attention to the position of these patients now. A similar question also addressed (in a previous project): should all patients with gluten-intolerance be screened for Diabetes type I as well?
(There are still pros and cons, no definite answer).

(University of Groningen/University Medical Centre Groningen; Science Shop for Medicine and Public Health)

a.3
SOCIAL SUPPORT AND QUALITY OF LIFE FOR ADHD PATIENTS

The influence of social support on the functioning and the quality of life of people with ADHD (Attention deficit Hyperactivity Disorder); on request of Impulse – the Dutch patients association of adults with ADHD: Electronic and telephone survey; 105 respondents. Questions were taken from the AAQoL (Adult ADHD Quality of Life-Scale), expanded with other questions from existing questionnaires and own questions. Average appreciation is 6.8 (SD 1.9), which is below average. The research helps to create awareness for this patient group and its problems in daily life.

(University of Groningen/University Medical Centre Groningen; Science Shop for Medicine and Public Health; in co-operation with the Department of Sociology)

a.4

GREEN IN ELDERLY CARE: WHAT IS THE SURPLUS VALUE OF NATURE PERCEPTION BY ELDERLY AND HOW IS THIS ORGANISED WITHIN CARE FACILITIES?

MISSING A PILL: SKIP IT, OR CATCH UP?

Pharmacists often find it hard to say whether a missed dosage should be compensated for or not. Students did research on a number of different medicines, for e.g. epilepsy, diabetes, asthma, cholesterol, pain, and more. Six articles were published.

(Science Shop Pharmacy, Groningen)

This report deals with the question whether nature perception can have a beneficial effect on elderly people. An inventory was made of what kind of 'green' activities are currently being organised within intramural care facilities. The research was conducted at the request of the Stichting Natuurlijk Genieten (SNG, literally 'Natural Enjoyment Foundation' although the name can also be read as 'Of-course Enjoyment Foundation'). This foundation advocates nature perception by elderly in hospital health care, which it does amongst other things by teaching courses for activity organisers and volunteers.

The foundation wanted to know whether the perceived value of nature perception by elderly can be supported scientifically. Also, they wanted insight into what kind of nature or green activities have been organised in the Netherlands. These two points were combined in the research question: What is the surplus value of nature perception by elderly and how is this organised within care facilities?

As a result, the project contained two focus points. The first investigated the surplus value of nature perception by elderly (75+ in hospital health care): whether this surplus value can be supported scientifically, whether it has been researched with a literature study.
The second focus point was an inventory of current initiatives in nature activities in care facilities. This inventory was made by doing telephone interviews with activity organisers of forty intramural care facilities (nursing and convalescent homes) across the Netherlands.
The literature review showed that elderly people are in general more sensitive to their surroundings than younger people. Dementia, depression and loneliness are common within this group. Therefore, they could benefit from nature activities such as a special nature room within the facility, garden therapy and / or contact with animals. The

positive effects of nature activities can be divided amongst six categories: Memories; Fulfilment of social needs; Sense of self value; Stimulating senses; Curation; Gaining knowledge. These categories were used to process the results from the telephone interviews.

It turned out that 88% of the interviewed homes organised nature activities. The most common activities included flower arranging (95%), watching nature documentaries, walking (68%) and creating seasonal displays (60%). When such activities were arranged in the six categories mentioned above, it became clear that not all possible positive effects of nature activities were being exploited. For example, there were few activities organised that fell under the categories of 'gaining knowledge' and stimulating senses.

From the data collected in the literature review and the telephone interviews, it can be concluded that nature activities certainly do have important positive effects on the participating elderly. But, whether nature activities have a surplus value as opposed to other activities depends for the most part on the individual participant. Therefore, intramural care facilities are advised to offer both nature and other kinds of activities to the people in their care. Activity organisers mentioned that they are in fact interested in information about the possibilities and effects of nature activities.

The report concluded with recommendations for future actions by the SNG. For example, the foundation could facilitate nature activities within care facilities by developing and maintaining a central database with (examples of) nature activities. The foundation was advised to continue the inventory of nature activities, so an overview of possible activities can in the future be supplied to professionals and volunteers who wish to organise these. Some practical questions have been added to the questionnaire that was used in this research project, to facilitate use by the SNG when collecting further practical information on nature activities that are of have been organised in the Netherlands. Suggestions were also made for additional broadening of the research field, such as conducting further research into the wishes of the elderly with regard to nature perception.

(Science Shop for Biology, University of Utrecht)

a.5
IMPROVED HEALTH CARE FOR ELDERLY IMMIGRANTS

Research has shown that the quality and the effectiveness of health care have been divided unevenly between immigrants and natives. Immigrants feel less healthy, have shorter consultations with general practitioners and they take more prescribed medicines than indigenous Dutch people. Nevertheless, requests for medical care by these migrants often end up with the wrong medical workers (doctors and nurses), which means that their request is not answered properly [Dutch Council for Health and Care, 1999]. The medical profession is gaining understanding that effective health care for immigrants requires adaptations, both in health education and in health care itself. This literature study aimed to answer the question how Homecare City Utrecht (Thuiszorg Stad Utrecht) can use health education to ensure that Turkish and Moroccan elderly can use the Dutch general health care adequately. To answer this question, the following research questions were phrased:

- For what reasons do Turkish and Moroccan elderly not yet use the Dutch general health system adequately?
- Which aspects should receive special attention when making health education for Turkish and Moroccan elderly?
- What is a suitable health education model for Homecare City Utrecht?

An answer to these research questions was found by combining a literature review with the gathering of information from organisations who are also working on health education for (elderly of chronically ill) immigrants. The problems that general health workers (doctors and nurses) experience when caring for immigrants are:

- Patient and medical workers often don't understand each other, or there are misconceptions because communication is problematic. This is due to a difference in their frame of reference.
- Immigrant patients often lack insight into the organisation of Dutch Health Care.
- Immigrants often have different expectations of health care. This is due to their experiences in their place of origin.
- here is a gap between the knowledge of the immigrant patient and that of the medical worker. This is caused by differences in world view.

To ensure that health education is effective, there will need to be more cooperation with other organisations dealing with chronically ill immigrant elderly. To improve effectiveness, it is advised to include the target group in the development of health education. When developing health education for immigrants, it is also a good idea to use the PEN-3-model. This model pays more attention to diverse culturally established determinants than the more widely-used ASE-model. From the PEN-3-model, it can also be deducted that the family of the patient should be included in the health education. But health education alone will not solve the problems. Doctors and homecare workers will also have to make adaptations to ensure that health care will be more accessible to the target group, for example by using interpreters, of by planning extra time for a consultation.

(Science Shop for Biology, University of Utrecht)

B. PROJECT EXAMPLES: MEDICAL STUDIES

b.1 EVALUATION OF BUTEYKO BREATHING TECHNIQUE

Buteyko is a breathing technique for asthma prevention and relief. This alternative technique was put to the evidence-based medicine test, on behalf of the Buteyko Centre Netherlands; through a critical review of the literature. There are suggestions for a possible benefit in the treatment of asthma (CO_2 possibly plays a role in the severity of asthma), but certainly not for its prevention. A sound scientific basis was not yet found in the published literature; a trial analysed was found to have methodological shortcomings and errors. Only after a better trial might this alternative technique gain wider recognition.

(University of Groningen/University Medical Centre Groningen; Science Shop for Medicine and Public Health)

b.2

EFFECTIVENESS OF LASER TREATMENT FOR PSORIASIS

Dutch and US protocols differ; in the Netherlands lasers are not used in academic hospitals. On behalf of the patient's association for psoriasis, the relevant literature was reviewed and recommendations were made regarding types of lasers and patient characteristics critical to the choice for laser treatment. The association can now further negotiate with Health Care Insurances and the Medical Authorities.

(University of Groningen/University Medical Centre Groningen; Science Shop for Medicine and Public Health)

b.3

CONNECTIVE TISSUE DISEASES AND AUTO-IMMUNE DISEASES WITH WOMEN WITH SILICONE BREAST-IMPLANTS AND THEIR OFFSPRING

A literature review was undertaken, at the requests of patients, to update the report of the Health Advisory Council (which was 5 years old) and check for possible new findings in the literature. A total of 17 studies were found and analysed. Ten studies did not find correlations, the others did point to associations but these were weak and their clinical implementations were not always known. No reason was found to challenge the previous findings of the Health Advisory Council.

(University of Groningen/University Medical Centre Groningen; Science Shop for Medicine and Public Health)

b.4
THE RELATIONSHIP BETWEEN TRAFFIC RELATED AIR POLLUTION AND RESPIRATORY HEALTH AND EXHALED NITRIC OXIDE IN DUTCH SCHOOLCHILDREN

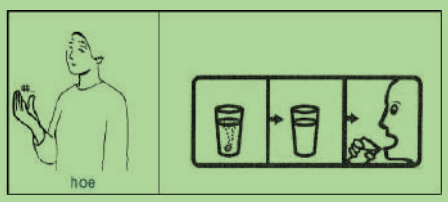
In recent decades there has been increasing concern about possible adverse effects caused by pollution from motor vehicle emissions. This study was designed to test the hypothesis that exposure to exhaust from traffic was related to childhood respiratory health. The study was requested by two citizens' groups that are concerned about possible adverse health effects due the nearness of motorways to their homes and schools of their children. Respiratory health was studied in children from 9 Dutch schools, situated within 400 meters of a motorway. Exposure to traffic-related air pollution was assessed by using specific traffic-related characteristics (individual car and truck traffic counts, and distance from homes and schools to highway). Data of respiratory symptoms were collected by parent-completed questionnaires and exhaled nitric oxide measurements were collected by the offline-method. Further, outdoor air samples were analysed for air pollutants and in a preliminary laboratory test design the immunotoxic potency of these samples were studied. Respiratory symptoms were increased in children that live near motorways with high truck traffic counts; especially when mean weighted Odds Ratios were calculated by combining data from other similar Dutch studies. Nitric oxide values were higher in children with respiratory symptoms as compared to children without respiratory symptoms. Near motorways with high car and truck traffic counts, exhaled nitric oxide levels were higher. The results of this study demonstrate that high truck traffic counts in particular, are related to children respiratory health. Children attending schools near motorways with high traffic counts experienced more respiratory health problems and showed higher exhaled nitric oxide values than children attending schools near motorways with low traffic counts. The study was initiated based on two requests from different local groups of concerned citizens.

(Science Shop for Biology, University of Utrecht)

C. PROJECT EXAMPLES: PHARMACY

c.1 EARLY-DEAF PERSONS AND DRUG INFORMATION

For early-deaf people, Dutch is like a foreign language; especially for those that also have a mental disability as well (double handicapped). The science shop for pharmacy developed, together with the science shop for language and communication, visual aids for this specific group of patients, often living in 'shared homes'.



General Practitioners were a bit reluctant at first, but their patients told them they did not want to feel treated like small children. For the pharmaceutical industry, the target group is too small to consider general information with each box of drugs. It is up to GPs and pharmacists to use these symbols for deaf patients. After a year and a half of interdisciplinary research, a CD-ROM was delivered to them for making their own print-outs!

(University of Groningen, Science Shop for Pharmacy)

c.2 TABLETS IN AN EMPTY STOMACH? RAMADAN AND MEDICINE USE

This PhD project related to the fact that Muslims are not allowed to eat and drink from sunrise to sunset during Ramadan. To some, this means that they will also not take their medication, whereas others would take their medication, but on an empty stomach. GPs and pharmacists are usually not aware of this patient behaviour. Muslims are not always aware of the exception to the rules laid out in the Koran for those who are ill. The project, carried out in co-operation with a Turkish university, focuses on improved communication and understanding, potential side effects, etc. It builds on previous projects concerning minorities and medicine use; for immigrant students this line of research is very attractive as well and given their language possibilities, some research cannot be done without them. Previous research showed, for instance, that immigrants from a number of countries expect to have a pill for whatever complaint, whereas Dutch GPs are normally very reluctant to prescribe pills for complaints that will go away soon anyway; the prescription of antibiotics being an example. These projects also lead to better mutual understanding.

(University of Groningen, Science Shop for Pharmacy)

OPTIONAL ACTIVITY: SCENARIO WORKSHOP

FACT SHEET

GENERAL DESCRIPTION	The Scenario Workshop is based on a presentation of possible future developments for a topic or problem chosen beforehand. The criticism of the Scenarios by the participants together with their own experiences forms the basis for visions and action plans.
PARTICIPANTS – TARGET GROUPS	People with different roles in the local community: politicians, government officials, civil servants, technical experts, investors, business people, citizens and local associations. The group can then be supplemented with voluntary participants, e.g. recruited from Sparks-related activities.
RRI CONTEXT	Engaging different groups and organisations in dialogue and development processes, reflects the idea of responsiveness and diversity. The ideas development is based on anticipation, reflection, adaptation and reflectivity. The openness and transparency are obvious rules in outcome dissemination.
EXPECTED OUTCOME	Participants' own experiences and criticism of these scenarios form the basis for future visions and action plans for implementing visions on the chosen theme/topic/problem. A final action plan that describes the prioritised suggestions and focuses on those who are charged with the implementation.
PREPARATIONS	Define a topic of relevance for your community or your stakeholders. Consider the time needed to identify stakeholders, prepare scenarios, invite participants and hold face-to-face discussions to prepare the event. Editing, printing and sending of the scenarios to participants.
LEADING THEME DEVELOPMENT	A set of scenarios has to be written, describing alternative ways of development for the chosen topic. The scenarios represent different technical and organisational solutions with social and political values.
EXPERTS	It will be best to appoint an external planning group which comprises a number of people with specialist knowledge on the workshop topic or a specific commitment to the chosen problem to prepare the scenarios.
FORMAT IN NUMBERS	The Scenario Workshop can be organised as a full day meeting or can be split in two half day meetings. Between 15 and 25 participants. No more than 35.
VENUE	A seminar room which can hold your number of participants and allows for dialogue-oriented plenaries to be held, but also for participants to be split up into groups.

CATERING	Coffee and cold drinks should be provided. For a full day meeting a light lunch should be offered.
RESOURCES	**Staff:** Experienced moderator. Each working group has to agree on a presenter of results. **Equipment:** Moderation tools, Pin boards and/or Flipcharts, paper and pencils, means to present the scenarios (Computer, beamer & screen), stickers for voting, coloured name tags.
RUNNING THE EVENT	See time schedules in the detailed description of the methodology
ALTERNATIVE: FUTURES WORKSHOP	The main difference between a Scenario Workshop and a Futures Workshop is that the scenarios are not formulated in advance. Participants will come to develop scenarios on one question or local issue or challenge which connects to a particular development that is naturally linked to the field of their activities. But the Future Workshop also follows the steps of a critical analysis phase, a visionary phase and an implementation phase

LET'S BEGIN FROM THE BEGINNING

A Scenario Workshop is a further development of a methodology called the "Future Workshop". It follows the same three phases for criticism, vision and fantasy.

A Future Workshop is a method for planning and forming a vision of the future in a specific geographical area. These workshops help define aims and identify problems by local stakeholders. However, the Scenario Workshop is based on a presentation of possible future developments for a topic or problem chosen beforehand. These so-called Scenarios have to be formulated in advance. **The criticism of the Scenarios by the participants together with their own experiences forms the basis for visions and action plans.**

Scenario and Future Workshops follow the same process and steps:

- A critical analysis phase, involving detailed analysis of the situation/ technology.
- A visionary phase, where future visions are built upon the analysis in the first phase; these are then subject to a reality check.
- An implementation phase, where the visions are turned into action.

The aim of a Scenario Workshop is to create a basis for local action. In addition, such a workshop is used to gather knowledge about which visions and experiences the participants have on the given scenario but also which barriers participants see and what their attitudes are towards the defined scenarios.

A Scenario Workshop is a further development of a methodology called the "Future Workshop". It follows the same three phases for criticism, vision and fantasy.

Example 1:

SCENARIOS ON AGEING SOCIETY – WHAT CHOICES DO WE HAVE FOR THE FUTURE?

In this project, three scenarios were used as a tool to stimulate debate about the future of elderly care. They show in particular how the health care services may develop, how the municipalities may be affected by increased government control, a stronger private sector or a better organised voluntary community. The Scenario Workshops aimed at producing visions for what kind of elderly care services Europeans want and what policies are needed to achieve these visions.

(From parcitaproject.net)

Example 2:

THIS SCENARIO WORKSHOP BROUGHT TOGETHER VARIOUS STAKEHOLDERS, PRACTITIONERS AND RESEARCHERS TO PROMOTE HEALTH EDUCATION IN THE RHÔNE-ALPES REGION.

Their goal was to discuss the opportunity of a participatory research network. Since health promotion is to strengthen people's capacity to know and act on health determinants, it should not be based on knowledge of "all facts" that come "from above" but located on knowledge in their contexts, which may be appropriate for people and reinvested in their own life situations.

(From livingknowledge.org)

Example 3:

"BEAUTIFUL TO THE CORE? SETTING UP HEALTH INFORMATION MODULES FOR BONN'S SCHOOLS TO EMPOWER PUPILS, PARENTS AND TEACHERS."

From ideal beauty at any (surgical) cost, to altered body consciousness as the cause of addiction and dependence on e.g. food or drugs, there are many factors that can result from current questions or problems and can stimulate the debate from the perspectives of different disciplines (psychology, special diets, drug prevention and youth work, consumer research, ethics, media studies, surgery, etc.).This topic will refer to a local case study and also build a link to the local museum's main exhibition called "Eva's Beauty Case".

The Scenario Workshop methodology stimulates the debate about a given problem and scenario from the perspectives of different stakeholders. After collectively describing aims and objectives related to the solution of the problem, visions and very first steps for actions and implementation plans can be identified.

The main goals of a Scenario Workshop are:

- Specify a concrete project
- Define together all desirable prospects
- Develop visions, plans and actions to achieve the objective
- Become aware of upcoming problems or obstacles
- Identify the differences and similarities of perception, by different groups of participants, of problems and solutions.

A Scenario Workshop involves few participants, typically between 15 and 25, with different roles in the local community, for example:

- politicians, government officials, civil servants
- technical experts
- investors, business people
- citizens and local associations

The workshop gives everyone the chance to speak and participate, and fosters the effective sharing of ideas.

The main task for the organisers ahead of the Scenario Workshop is to prepare the distribution of participants into groups of similar interests for the 1st part of the workshop. Participants are then mixed for the 2nd part.

The topic of the Scenario Workshop in Sparks might arise from the initial Reversed Science Café or from discussions when inviting stakeholders to join the local partnership.

The exchange of professional insight and users' experience must generate new knowledge.

In fact the chosen topic should not be too narrow. It should deal with assessing and choosing between different types of solution, policy or technology. It is also important for it to lie within the participants' sphere of action, i.e. that there is an opportunity to influence in the topic and that all decisions have not already been taken.

Please consider the topic to be relevant to society and to a consensus that local action is a necessity. The exchange of professional insight and users' experience must generate new knowledge.

So prerequisites for success are:

- a strong and shared **commitment** to the implementation of a solution,
- and that each of these actors has practical **means of intervention** in their own domain.

SETTING AN SCENARIO WORKSHOP

A Scenario Workshop is a particular type of meeting, which follows a certain set of rules. During the Workshop there will be time for brainstorming, discussion, presentation, and time for voting. The work shifts between plenary and group sessions. The format and ground rules of the Scenario Workshop are there to ensure that everyone gets their say, that all ideas can be tabled for discussion, and that the work is aimed at an action plan. A Scenario Workshop following the initial methodology typically lasts two days, and goes through three phases.

Later in this document you will find variations of the methodology applicable in the context of the Sparks project.

Define a topic of relevance for your community or your stakeholders. This should be done in exchange with your local partners. Inspiration can be taken from the Reversed Science Café or the Science Espressos, but also from your briefing meetings with local partners. **Participants have to be carefully selected, and they are asked to read the scenarios beforehand. Participation should be confirmed and guaranteed throughout the whole event.**

The activity follows 3 phases:

CRITICAL ANALYSIS PHASE

The prepared and suggested scenarios represent different possible scenarios of the future of an expressed topic or problem. They are not predictions and the task does not involve choosing a preferred scenario or assessing which is the most probable. The scenarios are there to inspire criticism which can lead to new visions and action proposals. The task of the critical analysis phase is to criticise the scenarios – to provide both positive and negative criticism based on the views, knowledge and experiences of the participants.

VISIONARY PHASE

Using the knowledge gained from the critical analysis phase, the visionary phase focuses on developing personal visions for future development. Participants are allowed to select which elements and parts of the scenarios they want to include in their own future vision and combine these with other elements. The work takes place in theme groups so people can focus on their theme and formulate a number of visions.

IMPLEMENTATION PHASE

When transforming visions into reality, a number of barriers become apparent which are important to identify. These barriers may be economic, cultural, social, organisational, political or technical. The theme groups' suggestions for implementing their visions are discussed as a group in an effort to clarify and prioritise the implementation phase. Following this, action proposals are prepared for the final action plan. The final action plan describes the prioritised suggestions and focuses on those who are charged with their implementation.

STRENGTHS

- The method is well suited to controversial and complex topics, helping people work out a common vision on innovation and technological design.
- It allows for an exchange of ideas, views and knowledge among different stakeholder groups.
- It involves the affected parties in solving a local problem that needs immediate action.
- It creates a local action catalogue for the political level and can be helpful in integrating a citizen-led perspective into local decision making.
- It can empower usually marginalised groups and help participants overcome their own bias in relation to a specific technology.
- The participating citizens are an equal group alongside the other actors. The citizens can be defined as experts because of their local experience and knowledge that is crucial in solving local problems.
- The visions include 'who' will be acting and 'how' they will act.

WEAKNESSES

The following table summarizes the very specific adaptations made during the different phases of these two types of Scenario Workshops.

- Sometimes group dynamics and strong interests can affect the outcome of a deliberative process.
- Participants may spend too much time on one issue.
- Workshop evaluations have a tendency to overestimate potential for action. The parties involved in the specific problem such as citizens, stakeholders and policy makers have to participate at the whole scenario workshop for it to make it result in sustainable solutions.
- The results can be difficult to use at a general level because the method is very locally oriented.
- One scenario workshop is sometimes not enough to bring consensus.
- Implementing outcomes will depend on support from key decision makers which can be challenging to secure.

GETTING READY

The Scenario Workshop can be held as a stand-alone event, but for bigger projects it is recommended to conduct several Scenario Workshops in the same project process. This can either take the form of independent workshops about the same topic but featuring different scenarios, or can also take the form of several workshops in which the scenarios are gradually developed based on the work of the participants and where the same participants take part in several workshops.

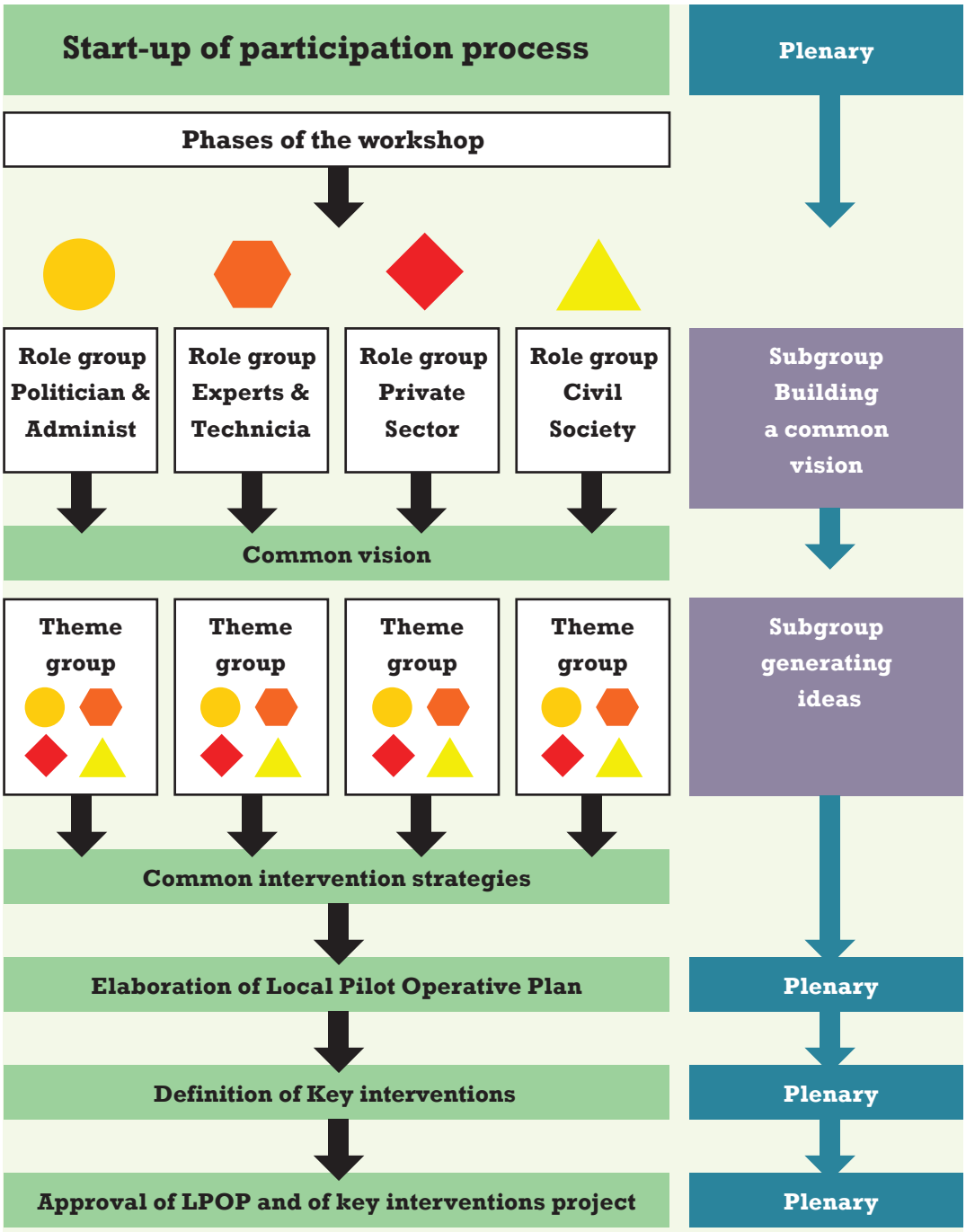
Learn more from:

A report from the PERARES project describing the application of the Scenario Workshop methodology:

A toolbox including a guide for organising Scenario Workshops.

A Scenario Workshop Fact Sheet (p.168).

See also participedia.net and unu.edu for descriptions of the methodology.



Remade from the chart at www.livingknowledge.org

TYPES OF SCENARIO WORKSHOPS

Scenario workshops, like other participatory planning methodologies, are offered to groups of stakeholders, in order to enable them to lay the groundwork for a project to be jointly developed. The reasons why stakeholders may wish to participate in a Scenario Workshop might depend on their wish to find new partners. A strong reason to participate is personal concern or organisational involvement in the offered topic as well as a wish to contribute to changes. The Scenario Workshop method needs participants to be present for the full duration of the workshop, and not only taking part in certain sessions. Otherwise mutual understanding and the joint development of solutions and action plans will be difficult. Guaranteeing the availability of the most relevant stakeholders over such a long period can be a challenge for the success of the process. Therefore different timing schedules are suggested for the different types of Scenario Workshops

There are two types of cases that can be identified and implemented. You have a summary table at the end of this section.

- **TYPE A - 'SYNERGIES' SCENARIO WORKSHOP**
- **TYPE B - 'DEVELOPMENTS SCENARIO WORKSHOP**

In what follows, the different types and their specifics and pre-requisites are described. **Sparks local organisers have to choose the appropriate Scenario Workshop Strategy for their purposes (which idealistically are negotiated with their group of local experts).**

TYPE A: SYNERGIES

This type of Scenario Workshop is intended for participants who are already in a relationship, who may in some cases have already partnered but wish to share resources to develop new joint projects within their already predefined respective strategies.

Let's say to bring together different stakeholders, practitioners and researchers involved in the field of promotion and health education in the region in order to discuss the opportunity of a network of participatory research. For example to involve University senior leaders, lecturers, City and County council officers, the Council for Voluntary Service and student society representatives, on the topic of 'Engaged Learning' to discuss how to create more opportunities for student projects which respond to local civil society needs for research.

This type of Scenario Workshop is intended for participants who are already in a relationship, who may in some cases have already partnered but wish to share resources to develop new joint projects within their already predefined respective strategies.

THE FOCUS QUESTION

The wording of the focus question must remain general enough not to guide the participants too much in developing scenarios of the "utopian" session. It is useful to place the issue in a 10-15 year perspective, in order to free participants from current contingencies (political, organisational, financial, etc.) which constrain creativity. The question is naturally linked to the field of activities the participants have in common. It is rather oriented towards the consolidation of a network.

SELECTING PARTICIPANTS

The process of selection of participants is always a difficult exercise. In general, for a Scenario Workshop, it is crucial to mobilize people who have certain means of action and are committed to implementing ideas and decisions, and are not just people interested or curious. A small group of participants, whose presence is deemed important (key players in the region on issues of promotion and health education), can be shortlisted. Then actors with whom these people have had professional relations on these issues can also invited.

Inviting approximately 30 people might lead to about 20 attendees.

TIMING

The 'Synergies' Scenario Workshops can be organised on a week day or a weekend, as the participants come from the same organisation, or a group or network of partner organisations. They are likely to already be familiar with each other and implemented some projects together.

GROUP SET-UP FOR THE UTOPIAN STAGE

The first subgroup session is the most difficult to implement. It is very exploratory and requires the groups to be formed in the best way. **It is thus crucial that the participants are able in a very short time to develop a common vision. This setting determines the conceptual framework within which the proposed activities will subsequently be imagined. These groups therefore require a degree of homogeneity that can be addressed in a specific way depending on the type of Scenario Workshop.**

The given occupations and profiles of the participants (researchers, practitioners and mediators), might cause difficulties when forming groups based on these aspects, as a number could fall into several of these categories. There-fore it makes sense to suggest at the beginning of the Scenario Workshop that each participant should choose a group they wish to participate in, based on the activities they are involved in rather than their occupations.

For example sets of labels can be offered to the participants, with the words "Research", "Practice" and "Mediation" rather than "Researchers", "Practitioners" and "Mediators." The number of participants per group can limited by limiting the number of labels. Decision in thematic groups

Once the groups come up with utopian scenarios, the objective is to define the topics to be discussed from among the numerous aspects of the problem discussed during the first group session. For this, it is necessary to extract common concepts from the presentations, whether they are points of convergence or divergence. These concepts are then presented in the form of **keywords**. Redundancies in keywords are removed by merging keywords which are close in meaning. Probably the project or projects to be proposed are not at the core of participants' business. So it is suggested that only the first four or five (depending on the number of possible thematic groups) topics will be treated. These will be the issues for the thematic groups (the mixed groups) to continue working on.

A voting system can established during the lunch break by asking each person to assign a total of 2 points for keywords they wanted to address as a priority (2 points if they chose one keyword, or 1 point for each of 2 favourite keywords). Then the participants are divided into thematic groups in a coordinated manner by ensuring that each new group contains at least one participant from each group of the first group session. This phase of selection is also subject to certain adjustments based on the type of Scenario Workshop.

Discussions and action plan

The group session again should be followed by a feedback phase. Presentations are confronted and followed by a discussion to define the activities that will be able to gather the most participants. The definition of a common project must take into account the history of relations or power relations existing between participants. This is an exercise that can be very tricky because the opportunity for these actors to set out their position and aspirations can be rushed.

An ex-post evaluation can be organised, in which participants can be asked to formalize some ideas they did not have the chance to express during the Scenario Workshop, in order to feed the overall project.

OUTLINE OF A SCENARIO WORKSHOP (AS FOR EXAMPLE 1)

Typical Duration	Format	Activities
30 min	Plenary	**Presentation of scenarios, technologies and national context** The three scenarios will be introduced and explained to the participants together with information on technology and national context. By: local organiser/local expert.
	10 min break	
50 min	Subgroup session	**Critical analysis and deliberation of the scenarios** Participants are split into homogeneous groups with people who have the same role/function as themselves. Each group has one moderator. The group has a short round of introduction; their name, role and why they are participating. The participants give positive and negative feedback on the scenarios. Are they realistic? Possible? Desirable? Why/why not? The aim of this phase is to get the participants immediate reactions to the scenarios based on their own experience. By: participants in groups, group moderators
	10 min break	
55 min	Subgroup session	**How would reality look like in the different scenarios?** Each group will discuss one scenario (group 1 and 2 discuss scenario 1, group 2 and 3 discuss scenario 2 etc.). Group moderators are responsible for keeping the discussion to this one scenario. The discussions will aim at identifying strengths, weaknesses, possibilities and threats regarding how technology is used in the scenario. The group can start their work by reading through the scenario description briefly before starting the discussion. Each group formulates 5 positive and 5 negative responses to "their" scenario that will be presented in the plenary discussion. The group moderator will get a list of guiding questions if the group needs help to get the discussion going. By: participants in groups, group moderator.

Typical Duration	Format	Activities
	Lunch 45 min	
40 min	Plenary	**Presentation of results** By: Facilitator, one representative from each group presents their results.
70 min	Subgroup session	**Formulation of the participants own visions** The participants find their new groups, which are now put together across disciplines and expertise/experience. This will motivate the participants to agree across the different groups of stakeholders. The interdisciplinary groups will discuss and present their own visions, with some guiding questions in mind: What should the care services be like in the future? What dilemmas/choices will be central in order to reach your vision? What can decision-makers do today to stimulate a development that will lead to your vision? Why is this vision desirable? Detailed description of session: Each participant gets a couple of minutes to write down one vision for his/her desired future, and then present it to the group. The group sorts all visions, clusters similar or related visions and merge them into 2-3 visions that will be discussed more in detail. The group discusses what choices and/or policies are necessary in order to reach these visions. The group moderator can help get the discussion by asking some guiding questions. By: participants in groups, group moderator.
	10 min break	
60 min	Plenary	**Presentation of results** By: Facilitator and groups.
15 min	Plenary	**Thank you and goodbye** Closing comment by organiser.

TYPE B: DEVELOPMENTS

These are the most classic Scenario Workshops and at the same time the most ambitious, not in terms of organisation, but in terms of implementation. For these, actors are gathered whose relations are tenuous and thus it is common that partnerships undertaken unravel for reasons of dispersion and lack of mediation or a stable base to sustain their relationships. However, this type of encounter is interesting in order to establish new partnerships and explore new directions as well.

This kind of Scenario Workshop can be the priority for Sparks local organisers, in order to try to expand the circle of stakeholders brought into informing new developments in public engagement with research, to develop the possibilities for 'ongoing', 'continuous' or 'permanent debate', as well as to generate new knowledge exchange projects.

For instance, to organise a 'general' workshop with no theme other than participatory research, in order to generate ideas, desires and suggestions to feed into the rest of the process. This can be intentionally exploratory. Two practical themes could then proposed by participants of this general Scenario Workshop. It has to be kept in mind that enough participants need to be found for the suggested themes.

THE FOCUS QUESTION

In Sparks the question for this type of a Scenario Workshop is determined on the initiative of local partners, involved stakeholders or by the local organiser himself.

These are the most classic Scenario Workshops and at the same time the most ambitious, not in terms of organisation, but in terms of implementation.

SELECTING PARTICIPANTS

For this type of a Scenario Workshop it is helpful to identify in advance a core group of participants as potential leaders and consult them about the participants to invite. The group can then be supplemented with voluntary participants, e.g. recruited from Sparks related activities. This invitation then can be done by messages on social media or to mailing lists which the principal partners can supply.

TIMING

The Type B Scenario Workshops can, for some participants, be considered as part of their professional occupation and for others it is voluntary work, so it will be important to judge what timing will suit participants best. For example, they can be scheduled over two consecutive evenings, rather than a full day workshop.

GROUP SET-UP FOR THE UTOPIAN STAGE

The formation of groups in this type of the Scenario Workshops can run in a standard way. For example for the general Scenario Workshop, the groups can be formed with researchers in experimental sciences, a group of researchers in the humanities, a group of representatives of civil society organisations (CSOs) whose activities are related to the experimental sciences (health, environment, etc.), and lastly with CSO representatives in social and health fields.

DECISION IN THEMATIC GROUPS

As described before for Type A, the issues for the thematic groups (the mixed groups) will be determined through a voting system. The participants might come together for the thematic groups on a second evening. The list of keywords thus can made available from the summary of the first evening at the beginning of the second evening. This list then should be consolidated and the rest of the procedure is similar to the previous case. Here too, only the first four or five topics are further discussed. The ''two consecutive evening'' option for this type of the Scenario Workshop can give the organisers the opportunity to make a summary during the day prior to the second evening. It will allow them to take time to assess the outcomes of the first session, and gives participants time to integrate what had been stated by participants from other groups.

DISCUSSIONS AND ACTION PLAN

The group session again should be followed by a feedback phase, but this time presentations are confronted and followed by a discussion whose purpose is to define the activities that will be able to gather the most participants. A long period of discussion may be necessary when choosing this type of a Scenario Workshop. The workshop can be seen as a very preliminary process also involving actors who do not already know each other and have not worked together before.

For example it might not be possible to develop an action plan per se, but it can be agreed that one partner (as the most relevant regional actor) can provide the best platform for further collaborations and that it would be interesting to conduct additional Scenario Workshops, but then focus on thematic issues.

The list of activities can be quite heterogeneous so voters should be asked to vote only for those activities for which they were willing to give time and energy. Then an action plan can be developed with the activities that received the most votes.

CONCLUSION AND FOLLOW-UP

A more general Scenario Workshop may induce a second because of the desire of some participants to move forward on a specific theme.

OUTLINE OF A SCENARIO WORKSHOP (AS FOR EXAMPLE 2)

Typical Duration	Format	Activities
15 min	Plenary	**Welcome of participants**
45 min	Plenary	**Introduction** Presentation of participants. Presentation of objectives and reminders about the scenarios-workshops methodology Introduction to the topic
70 min	Subgroup session	**Work on "utopian" scenarios**
		Each group gathers people with similar profiles (occupation, background, sensibility, etc.). Objectives: Design a "utopian" scenario (everything is going the right way) for a long-term horizon (10-15 years) taking care to answer the following questions: • What are the main steps to achieve this scenario? • What are the key factors that contribute? • What past elements suggest that this scenario is feasible? Each group will have a moderator and a speaker who will summarize the results and present the scenario in the plenary
45 min	Plenary	**Presentation of results and identification of and issues of common understanding** The presentation of the results of each subgroup fosters mutual understanding. It allows participants to express their motivations and intentions. This creates transparency on individual backgrounds and builds the basis for the understanding of decisions and choices.
	Lunch Break	
20 min	Plenary	**Synthesis and validation of themes extracted from the 1st scenarios** After the presentation of the subgroup scenarios all scenarios will be compared and the participants will be instructed to look for the following: surprising differences, ideas they did not expect, conflicting issues and common aspects.

OUTLINE OF A SCENARIO WORKSHOP (AS FOR EXAMPLE 1)

Typical Duration	Format	Activities
		All common aspects will be listed and this list will be condensed to 4 issues through voting. These will be the issues for the thematic groups (the mixed groups) to continue working on. Mix up the groups (each group must contain at least one representative from each group of the 1st subgroup session).
10 min	Plenary	**Instructions for the work in Subgroups**
1h20-1h30	Subgroup session	**Work on "pragmatic" scenarios** Each group must realistically address the following questions: What activities must be implemented to respond to the thematic issue keeping his utopian scenario in mind? Who can implement them? Who can help? What decisions are to be taken? What obstacles are expected?
20-30 min	Plenary	**Summary** Presentation of ideas and suggestions for action from each group by each designated spokesperson. Discussion on each presentation to remove any ambiguity.
50 min-1h	Plenary	**Discussion on proposed activities** Definition of priorities
20-30 min	Plenary	**Action plan design** Definition of activities, distribution of roles and agendas
10 min	Plenary	**Feedback of participants**
		The first phase typically lasts 3h30 to 4h.It is strongly recommended that you provide a period of 2 hours to work in subgroups. The second phase also lasts about 3h30 to 4h. *The maximum duration specified for the discussion about activities generally encroach on the duration for the development of the action plan. The total duration varies from 7h to 8h.*

SUMMARY TABLE

Type	**'Synergies' Scenario Workshop**	**'Developments' Scenario Workshop**
Focus question	Point of convergence of the participants.	Determined with a core group of participants.
Participants selection	Choose important key actors and invite additional actors on suggestions.	Choose possible leaders, committed actors and open up for interested and curious public.
Suggested timing	1 weekday.	2 evenings during the week or weekend.
Utopian scenarios groups	Each participant chooses a group they wish to participate in, based on the activities they are involved in rather than on a typical stakeholder category or their professional occupation.	Classical occupation or stakeholder categories. Arrangement in groups through local organiser.
Thematic groups	Weighted vote then selection of the most preferred themes.	Intermediate synthesis, validation with the group, weighted vote then selection of the most preferred themes.
Discussions and action plan	Quick proposal to develop a (funded) activity or project.	Classic action plan: Activities to implement; Who leads? Who may help? When? Are their funding needs and opportunities and what will the process be for writing joint funding applications?
Conclusion and follow-up	Help to build a sound proposal to take into account the suggestions that came up during the Scenario Workshop.	Follow-up of the state of progress of the activities listed in the action plan. Intermediary staff/volunteers will be needed to work on the ongoing process of collaboration.

OPTIONAL ACTIVITY: INCUBATION WORKSHOP

FACT SHEET

GENERAL DESCRIPTION	The Incubation Workshop (IW) gathers people of different backgrounds and professions to work together on creating an innovative idea/service/product on a selected issue. It can be: **Design Incubation Workshop** (a long-term series of meetings) or **Hackaton-style Incubation Workshop** (24 hours long programming or constructing marathon).
PARTICIPANTS – TARGET GROUPS	Between 30 and 100 people, working in small groups. Groups should be interdisciplinary and diverse in terms of background, professions, skills and maintain gender balance.
RRI CONTEXT	Engaging different groups and organisations in innovative processes reflects the idea of responsiveness and diversity. The development of ideas is based on anticipation, reflection, adaptation and reflectivity. Openness and transparency are obvious rules in outcome dissemination.
EXPECTED OUTCOME	Several documented ideas of new products or services and/or prototypes for further development or implementation.
PREPARATIONS	Choose between a Design Incubation Workshop or a Hackathon-style Incubation Workshop. Define a topic of relevance for your community and your stakeholders. Plan the process – detailed scenario for running the workshops, decide on outcomes. Engage a facilitator, mentors, future users and recruit participants. Prepare venue and materials.
LEADING THEME DEVELOPMENT	Choose a topic based on real, local problems, challenges or concerns. Or outsource the choice of the topic to your local partnership which can deliver a set of ready-made diagnoses and problems to solve.
EXPERTS	In Incubation Workshops participants are understood as experts who during the incubation process bring their skills to the group. Mentors are highly knowledgeable individuals who inspire other participants, select the topic and know the plan for the workshop's course.
FORMAT IN NUMBERS	Design Incubation Workshops: long-term series of a few meetings for around 30 people. A Hackathon Incubation Workshop: up to 150 people collaborate intensively during 24 hours.
VENUE	The space where the Design IW/Hackathon IW takes place should be arranged to accommodate different activities simultaneously: e.g. lectures, brainstorming meetings, working on hardware, a chill-out zone, a separate room for discussing the project with mentors (ideal), space where some utilities and materials can be stored (ideal), etc. You may choose a separate (prestigious) venue to present the outcomes.

CATERING	Coffee and snacks should be provided and a light lunch should be offered.
RESOURCES	**Staff**: Coordinator, Communication officer, Facilitator who conduct the workshops, mentors. **Equipment**: Screen, multimedia projector, tables, chairs, flipcharts, Internet access, printer, common computers.
TYPICAL TIME FRAME	**6 months.** Go to "Getting ready section", for a proposed schedule.
RUNNING THE EVENT	See: Planning the process and Scenario example in Activities Guidelines.
ALTERNATIVE: FUTURES WORKSHOP	The main difference between a Scenario Workshop and a Futures Workshop is that the scenarios are not formulated in advance. Participants will come to develop scenarios on one question or local issue or challenge which connects to a particular development that is naturally linked to the field of their activities. But the Future Workshop also follows the steps of a critical analysis phase, a visionary phase and an implementation phase.

LET'S BEGIN FROM THE BEGINNING

The main idea of an Idea Incubation format (Design Incubation Workshop or Hackathon Incubation Workshop) is to gather together people of different backgrounds and professions: scientists, engineers, artists, designers and entrepreneurs, makers/hackers etc. to work together to create an innovative idea/service/product on a selected issue.

Design Incubation Workshops are long-term series of a few meetings for around 30 people.

A Hackathon Incubation Workshop is a programming or constructing marathon where specialists (up to 150 people) collaborate intensively during 24 hours.

The choice of the format depends on what conditions you can provide and what goals you want to achieve.

The main idea of an Idea Incubation format (Design Incubation Workshops or Hackathon Incubation Workshop) is to gather together people of different backgrounds and professions: scientists, engineers, artists, designers and entrepreneurs, makers/hackers etc. to work together to create an innovative idea/service/product on a selected issue.

The main, general features of both types are:

- Incubation of innovative ideas for products and services,
- Working across sector boundaries,
- Learning how to cooperate within interdisciplinary groups,
- Sharing knowledge, experience and opinions,
- Raising participants' curiosity in other disciplines, different to their field of interest,
- Networking between people that do not have the chance to meet in their daily professional life and to facilitate their future collaborations after the project ends,
- Involving future users in process of creation by collecting their needs and opinions,
- Giving institutional support for developing ideas after the incubation process by networking with other institutions, organisations, experts, businesses and policy makers,
- Increasing the role of your organisation as a local innovation hub or place of interdisciplinary meetings,
- Developing new skills and gaining new knowledge by the participants.

The co-creation of ideas demands various actors working together throughout the whole process. Central for this idea is the work done between activity participants who create ideas, future users who test the ideas and mentors who provide feedback and expertise. Relationships between these groups can be shaped very differently. **We would like to encourage you to experiment on your own**. Besides the three main groups you should also involve other supporting actors – namely, you, a coordinator, activity facilitators and your local consortium.

MAIN ACTORS

COORDINATOR

Represents the local organiser and prepares the whole activity. Namely, involves the external mentors and activity facilitator, provides the venue, equipment, runs the process of recruiting participants, cares for documentation and reporting for the project.

FACILITATOR

A person who is responsible for running the whole workshop process and possibly suggests the scenario of the whole activity. **The facilitator should have skills and experience to lead and communicate with a large group of participants**. We recommend you to invite a professional coach, designer or another expert equipped with interpersonal skills.

Important: the roles of the coordinator and facilitator might intermingle. For example, the facilitator might be responsible for engaging mentors, or the coordinator might be the one who decides on the detailed scenario activity. Either way, both of those actors should work closely together. It is recommended for these roles not to be held by the same person. The incubation process works better when it is led by an impartial facilitator, not associated directly with the institution that organises the activity. This way it is easier to give more responsibility and authorship of ideas for the activity participants.

PARTICIPANTS

These are the people who will co-create the innovative ideas in the environment you will create for them. **Because of the aims and scope of the Sparks project, you should create the activity in a way so that they can work together in small groups**. The groups should be interdisciplinary - to achieve this we suggest recruiting them through an open call. It is important to connect with target audience. It means that during this process you should contact specifically the places that can provide you required participants. The group should be diverse in terms of background (scientists, engineers, artists, designers, entrepreneurs, makers and hackers), skills and maintain gender balance. They could be professionals in their field, or people simply with person-al interest in these ideas. Keep in mind that the Sparks project general target group is youth 12+ and adults.

When recruiting students of different backgrounds information should be directed to specific colleges or faculties. They could also be proposed by the local partnership or hand-picked.

Remember that working with youth might demand acquiring their parents' or legal guardians' agreements, especially when it comes to disseminating the ideas and works they will create.

MENTOR(S)

A person or a group whose main role is to inspire, share knowledge and experience from their professional field with the participants. They should be highly knowledgeable. The main tasks for the mentors could be:

- to give an introductory lecture at the beginning of the incubation
- to give a feedback to the participants at the stage of a prototyping of an idea, service or product
- to correct the risky assumptions or solutions for the presented idea
- to provide sources, examples or useful contacts for people in their network

There is no need for the mentors to be present during the whole process. However, in case of an intensive format like a Hackathon IW, it is better when they are available for the whole time. It is highly recommended that mentors appear at the final presentation at the end of the project.

Example of experts/mentors: scientists, social scientists, medicine doctors, artists, web content developers, service design consultants, entrepreneurs, NGO representatives, policy makers.

FUTURE USERS

At some stages of the project you should create an opportunity for participants to test their solutions with future or potential users. Therefore, you need to find a group of people who will be able to give constructive feedback – but in a different way than mentors would. The users should have life experience with the problem being solved by the participants.

Examples of inviting users to the process with varying levels of participation:

Co-create with users from the beginning	You could recruit users in the same way you recruit participants and have them involved in work with participants from the beginning. When choosing this option, remember that is necessary to devote some time to integrate the two groups. Also this is a very demanding option for users, who need to sacrifice the same amount of time as participants. It also demands more work from the facilitator, who actually deals with a larger group.
Organise feedback sessions with users	You can organise separate feedback meetings with users on different stages of the activity. If possible, you should try to invite people for whom the incubated ideas might be relevant. Still, even having participants survey among people met casually on the street, could be also profitable. Remember that the Sparks exhibition will provide event space you can arrange for this kind of meetings. With this option, participants will need to have some questions prepared for users or the documentation or prototype of their service/ product to show.
Gather users' feedback online	Participants could also create online surveys with tools like Google Forms and distribute them on social sites between their contacts. It is a core element of the idea incubation process to include the user perspective and experience, but the format is limited by a time frame so the moments of testing are finite as well. It means that created prototype would still need the improving after the project ends nevertheless the simplest indications from the users can change the course of inventing the idea.

Co-create with users from the beginning: For a 2-day workshop where teenagers (participants) were tasked to design some gadget that facilitates the life of a senior person. It was assumed these two generations don't have regular contact in their daily life. Some elderly people were invited, as volunteers, to share their needs and values and be of help throughout the whole 2 days. In the results they got involved in creating ideas and building prototypes, providing immediate feedback at all time.

Gather users' feedback online: A group of students were asked to create a small toy that would motivate people to lead healthier lifestyles. At the early stage of the idea development they created Facebook fan pages for the toy – with first, rudimental visualizations of it and text explaining its use. They invited their contacts to "like" the page and share comments on their idea.

PARTNERS OF THE PROJECT

Support of another organisation is essential to achieve sustainability of the project. In case of the Sparks project, we recommend reaching out to potentially helpful institutions early in the project and to make them part of your local partnership.

For example, most science centres do not have networks or skills to provide development and implementation of products beyond the incubated ideas. If your plan is to give some enterprising spirit and enhance participants to develop the idea after the workshops, it is worthy to invite a local centre of entrepreneurship or business incubator to collaborate. If it is possible, you may organise the final meeting in their venue, which will put incubated ideas in the entrepreneurial context. On the other hand, your institution may not have knowledge about the problems, which incubated ideas might solve. In such case, it will be very profitable for the programme to work closely with an institution who researches issues in the selected field. For example, if you want to focus on certain medical technologies invite a patient organisation which connects people benefitting from this technology.

EXPECTED OUTCOME

The expected deliverables of a Design Incubation Workshop or Hackathon-style Incubation Workshop are **several documented ideas for new products or services and/or prototypes for further development or implementation.**

Prototype of a device, gadget, toy, etc., a computer/mobile application (in first/alpha version) or a content for a new service.

SETTING AN INCUBATION WORKSHOP

SELECTING OF A TOPIC AND SPECIFYING A TASK

The main theme of the Sparks project is related to technological shifts in health and medicine and RRI in this context. For this format, it would be better to narrow down the topic. **Do research on real, local problems, challenges or concerns. This will help to determine scope of the task for the participants and assume the potential scale of the expected results, which is very important while planning and communicating the process of activities.**

On the other hand, you could outsource the choice of the topic to your local partnership. You may have partners like a municipal council, civil society organisations dealing with certain health problems or a government office of statistics. **They can deliver a set of ready-made diagnoses and problems to solve, which will make a process of incubation shorter.** Therefore, the participants can skip this very time-consuming stage of research. Still, as working in teams they will have to select one problem to analyse and define more detailed issue which they will work on.

Once you have topic for your activities you can decide how many and what kind of mentors and participants will be needed and who the future users are.

Some examples:

The topic: Urban Health – inspiring and relevant for participants living in your city.

The task "make the city dwellers healthier": very wide, participants will waste a lot of time researching and defining existing problems to solve.

The task "create a small toy that will motivate city dwellers to be healthier": very narrow – will make participants achieve a tangible outcome quickly but the ideas might not solve any actual problems.

The task "help senior citizens with their daily life in the city": perfect? See for yourself! Feel free to choose a risky topic.

PLANNING THE PROCESS

There is no "one size fits all" recipe for a format that will yield innovative ideas. Different scenarios might work in one local context but not in another. Nevertheless, one thing is sure – to be able to innovate, your participants need to be in touch with the root of the problem they want to solve and at the same time be open to new ideas and innovative solutions. To make it happen, they need to feel they have time and space to take risks, test their ideas and… fail in order to learn from their mistakes.

Different scenarios might work in one local context but not in another. Nevertheless, one thing is sure – to be able to innovate, your participants need to be in touch with the root of the problem they want to solve and at the same time be open to new ideas and innovative solutions.

A good example of a tool that can be used for this is the design thinking method, promoted by d.school at Stanford University . At its core lies a 5 step problem solving procedure:

1) Empathize
2) Define
3) Ideate
4) Prototype
5) Test

And of course in idealistic circumstances you can repeat the step 1, 2 or 3 …all again to reach the perfect product. For the idea incubation format, you can finish on the fifth step. If you decide to hold a Hackathon IW, then try to squeeze as many of those steps in the 12-24h of work planned. For example, the empathizing and defining steps can be done through introductory lectures by mentors and testing can be done on other participants of the event. Hackathon IWs emphasize the brainstorming-prototyping-testing loop. Their aim is to build a working demonstration of a product.

DECIDING ON THE OUTCOMES

It is important to have an initial vision of what you expect from the participants as a result of the activity. Have in mind that within the scope of the Sparks project time and budget, you will not be able to end with implemented ideas, a product on a market shelf. Most probably you will get a prototype from each group of participants.

So what is a prototype? From a Hackathon IW you might expect a piece of software that simulates the end results, such as a draft of an app. Besides that, encourage the participants to create some visuals of how they envision the final software to look and work. A good idea is to have them present their app in the form of little acting scenes and have them recorded. If you add makers and DIY communities to the Hackathon IW and provide them with hardware tools (electronic kits, 3D printers or even cardboard and glue) you will get mock-ups of tools or rudimentary working electronics. Either way you will get prototypes of a product.

To learn more about their methods start here. All materials available under the Creative Commons licence (attribution, non-commercial use).

It is important to have an initial vision of what you expect from the participants as a result of the activity.

The longer workshops allow you to end up with more developed products. Maybe you could also ask participants to figure out and write down simple marketing or business plan. For example using the one of the "one page business plan" tools, like Business Canvas

(Learn more at strategyzer.com. The tool is available under Creative Commons Attribution-Share Alike Licence).

The longer process also enables you to design services – which are usually prototyped on paper and in various multimedia formats. The participants can show how their service will work with a comic, video, acting out a scene or with any tool that will tell their story. Sometimes services are built around certain objects or products. They can be included easily in the prototype as a mock-up made from simple materials like cardboard or foam.

A prototype in this context is anything that will enable you to present and test an idea. Nevertheless, for the sustainability of the project (and to show the impact it has) you should demand a minimum documentation of the idea from your participants – at least a picture/visualization and a few paragraphs of written description of the solution.

CHOOSING THE MENTORS AND AREAS OF THEIR EXPERTISE

The more comprehensive the view on a subject is presented, the better and more innovative outcomes may be worked out.

Firstly, try to define what kind of input participants would need to pass smoothly through the process of developing an idea. Decide from what angles your main problem should be presented. The more comprehensive the view on a subject is presented, the better and more innovative outcomes may be worked out. Then, look for the Mentors whose areas of expertise refer best to your needs.

Example 1.

You plan to work on a health improving device. Invite an expert on medical research or a physician (who may present you selected problems of health), a designer (who may have already worked on a similar device), and a businessperson (who can give a set of instructions for making a business plan and other tips).

Example 2.

You plan to improve some service in a hospital for children. Engage an experienced nurse, child psychologist, service design consultant.

Remember:
Mentors should understand the idea and goals of the activity. The more they comprehend the Design IW/ Hackathon IW processes, the more helpful and involved they will be. Moreover, to perform their role properly they need to be encouraged and supported by you. We recommend you arrange an extra meeting with the mentors before the activity starts.

RECRUITING PARTICIPANTS

Example models of open-call recruitment	
Get people interested in the theme	Communicate the theme and the challenge inviting participants to create product/services responding to chosen needs. Let them apply freely (through and online form or e-mail). Ask them about their background and interests (science, art, entrepreneurship). **With this method you will get people who find the theme and the challenge relevant but you might not get applications that are diverse enough. Try to target the invitation to precise groups.**
Get people interested in the process	**Define the tasks that you predict the group will need to create and prototype ideas and advertise recruitment for precise roles in the group.** This way you will get people interested in developing certain skills. The downfall of this method is that the participants will not be interchangeable between groups – so if someone decides to leave the process, you will have a group with less chance of finishing their idea prototype. Also, they might treat the activity only as a professional development opportunity.
Take everyone!	This option is viable only for Hackathon IW, where you plan for very large group of participants. Invite people for the event, mentioning the theme and who you are looking for (coders, designers, makers…). But don't ask many questions. You can simply open an online registration using a service popular in your country (something like meetup.com). Then ask people to define the skills they can contribute to the work of their group at the beginning of an event.

Example for getting interested in the process:

for a workshop aiming to create prototypes of a product, recruit students of design, science, engineering and entrepreneurship to take up the roles of product designer, content manager, constructor and marketing leader. Each member of the team actively participates in the process from brainstorm to the final presentation, but is more useful in certain phases. You can have for example 6 teams of 5 people in 5 roles – so you can recruit 30 people.

Example:

Take everyone!: ask people to choose stickers with icons or text representing: coding languages they use, skills with graphic programs, field of science they have experience or even soft skills like team-building or public speaking.

Some tips:

You might need to select participants from many applications – it helps to do it with peers at your institution or local consortium. Make sure to keep the diversity and gender balance.

Try to learn something about candidates for the workshop – ask them about previous experience, give them a small task to sample how they think about solving problems.

As mentioned earlier, an open call is not the only method to get participants. You can recruit them through your network or with the local consortium. Take care to follow the general assumptions about participants described earlier.

Whichever way you decide to find your participants, remember that they should represent backgrounds mentioned in the project to form a diverse group.

GETTING READY

CHOOSING A VENUE

It is crucial to provide the best conditions for a creative atmosphere during the workshops. The space where the Design IW/Hackathon IW takes place should be arranged to accommodate different activities simultaneously: e.g. lectures, brainstorming meetings, working on hardware, a chill-out zone etc. But be sure to provide:

- screen, multimedia projector
- tables, chairs, flipcharts for participants
- chill-out zone with bean bag chairs or cosy sofa
- coffee corner for catering
- in some cases, a separate room for discussing the project with mentors
- basic facilities like Internet access for everybody, printer, common computers
- additional space where some utilities and materials can be stored

A TYPICAL SCHEDULE

Month 1:
Appoint an external planning group.

Month 2-4:
Prepare the workshop: Hold meetings with the planning group. Write scenarios. Invite participants. Send workshop material to participants (programme and scenarios).

Month 5:
Carry out the workshop

Month 6:
Final report: Hold meetings with the planning group. Write report with workshop results. Disseminate the output.

SCENARIO EXAMPLE

The Design IW/Hackathon IW format assumes five steps, each team goes through:

1 Brain Storm
2) Concept
3) Content
4) Mock-up
5) Presentation

Example of the day-by-day workshop schedule:

Phase/ Day 1:
Kick-off:
- Introduction of theme and main goals of the workshop,
- presenting and discussing the plan for further days,
- integration of participants,
- lectures presented by mentors,
- first debate or brainstorming of all participants on the main theme/ question,
- composing teams – confirming the roles.

Phase/ Day 2:
Work in teams, further searching for ideas, selection of preliminary ideas, analysis of the needs of potential users

Phase/ Day 3:
Selection of the proper idea, and further development of solutions

Phase/ Day 4:
Creating the first prototypes or mock-ups

Phase/ Day 5:
Developing the data, creating a business model

Phase/ Day 6 or postponed:
Presentation

At the end of each day, all the participants and the facilitator should gather and check the progress of work in every team. It is recommended that they give each other feedback on the presented ideas.

If you decide on the series of workshops of a Design Incubation Workshop format (e.g. two months with meetings taking place every weekend), you can modify it by adding some extra activities. You may provide the participants with training on some specific skills (e.g. the use of 3D printers, Arduino etc.). Firstly, this may provoke new ideas and solutions. Secondly, it will strengthen the learning processes of all participants, which is a value itself. Even an additional meeting with the mentors to receive a mid-term feedback is of great value.

DOCUMENTATION, PRESENTATION OF OUTCOMES AND DISSEMINATION

Collecting the data and preparing the documentation of the incubated ideas is a very suitable part of the whole process. It can be useful at the end of the activity and after the project end as well.

In case the participants create a prototype of thing or mobile application it is recommended to make an additional presentation of this product. The presentation should contain a set of vital information like: essential features of the product e.g.: name; what kind of problem it is supposed to solve; information about potential future users; general plan for implementation (technical, business); instruction of functioning; another written information helping to communicate the idea; visual content: sketches (drawings), photos of basic mock-ups, graphics (e.g. logotypes of generated products), visualisations.

If the result of the activity is something not material like a service, action or another venture, it is obvious that participants will create as comprehensive a presentation as possible (attaching a mock-up is not required). Depending on what conditions and skills participants have, the whole data might be collected in a PowerPoint presentation, brochure, leaflet, short movie or any other available format you can record or just save.

The presentation of outcomes is a vital part of the whole process of the idea incubation format. However, it is an additional effort for you as the local organiser. Decide if you want to host a public presentation of the results.

Remember that the more official and prestigious you make it, the more serious the motivation for work participants will be. Consider different ways to end the activity.

You can include the presentations as a last activity in the scenario on a last day. The only audience will consist of participants, co-facilitators and mentors - you can invite their friends and family. If you have the resources you can develop the final presentation and open it to a broader public. Consider asking participants for more detailed presentations and more advanced prototypes, provide them with materials and services to develop them. If you decide on this option, it is worthy to leave some time between the workshop's last meeting and the final show for participants to prepare in their own time.

Host the event outside of your venue, in a prestigious place that will create new context for the ideas (for example in a place associated with business and entrepreneurship).

Invite the general public (your local consortium, mentors, friends, families, journalists, policy makers, etc.).

To make this event more appealing organise the evening pitch for general public. Teams can choose a leader who will act as a speaker. Open the ceremony with an inaugural lecture on the Sparks theme made by interesting expert. Afterwards organise some kind of a reception where everybody, sipping a glass of wine, can talk face-to-face with the participants who show their outcomes. They may prepare some stands, brochures, leaflets, cards.

To ensure that the idea can be disseminated widely after the workshop (for further development or implementation), it is highly recommended to base the whole process on an open licence like the Creative Commons. There are different types of such licences. They usually differ in terms of possible areas of usage, citation requirements, or product modification allowance. We suggest you decide which type of the CC licence you choose while planning the activities. During a Design Incubation Workshop/ Hackathon IW all the participants are engaged in the creation process. Therefore, it is hard to determine who is the author of the particular idea or solution. It is recommended that you establish the rules during the planning phase. If you are not sure how copyright law is defined in your country, we suggest you seek legal advice on this issue. The rules on copyright should be defined at the very beginning, so the participants can be aware how the outcome of their work might be used. We recommend you put this information in the recruitment call for the participants.

Innovation is not something that can be guaranteed to occur through any process or activity.

Innovation is, by its nature, difficult to plan or capture. Remember that innovation can be found in very simple, easy ideas. Sometimes to innovate is to reduce the complexity of existing product and ideas. This trend, called **frugal innovation**, is worth giving as an example for the participants at the beginning and being recalled during the incubation process. The activities are limited by the lifetime of the Sparks project. The time slot needed to prepare prototypes, test them, document and present for further development is very tight. We are sure that trying out the proposed methodology will give your participants and your institution a great learning experience. Focus on giving them as much as possible, in terms of indirect outcomes like skills or networking. Even a failure to create a successful idea is an opportunity and an exercise in RRI. Having this in mind, be encouraged to experiment, research the proposed methods on your own – and do not be afraid to fail and… try again.

CAPTURING THE SCENE: DATA COLLECTION

TEMPLATES

In this chapter you will get a sample of the templates you will have to use as an Organiser and the questionnaires to be applied to the Visitors.

As foreseen in WP4, data will have to be collected alongside the Sparks exhibition and participatory activities with a view to understand what EU stakeholders think about RRI as well as identify the best formats to encourage citizens' participation in Research and Innovation (R&I) processes.

The information collected will feed in the Toolkit for activities to engage in RRI in the field of Health as well as the Policy Document to be produced at the end of the project. The Toolkit on engagement activities in RRI in Health will include the innovative formats for participatory activities, the guidelines for their organisation and the project's learning from their implementation.

The information collected will feed in the Toolkit for activities to engage in RRI in the field of Health as well as the Policy Document to be produced at the end of the project.

The Policy Document will contain tailored policy recommendations encouraging RRI processes at the regional and national level that will be disseminated among policy makers in health and R&I in Europe and beyond.

As explained in the methodological framework (D.4.1), data collection will focus on the "public engagement/multi-actor dialogue" pillar of RRI[1] with a view to understand:

1) whether Sparks formats have facilitated multi-actor dialogue in scientific research (according to both visitors and local organisers)[2];

2) which formats best facilitated such dialogue (according to both visitors and local organisers) and how (topic, physical location, etc.);

3) visitors' views on multi-actor dialogue (who should engage, why, where, etc.) in order to assess under which circumstances different types of visitors would be willing to take part in scientific research (particularly in the field of health).

1 - According to the EC's definition, RRI is an umbrella term covering six different pillars/dimensions: public engagement, open access, gender, ethics, science education and governance.

2 - See Annex I for a better overview of how the survey questions will be used to address the research objectives and obtain the agreed indicators.

Two tools will be used to collect data and are featured here:

1. The **participatory activities template**, which will target 28 local organisers and address the first two research questions. In particular, it will report on local organisers' perception about which formats worked best to stimulate dialogue and what is different/new in Sparks compared to past activities, mainly based on open questions. It will also report on the number and typology of participants for all the activities.

2. The **visitor survey** (**or visitor questionnaire**), which will address all the three research objectives and be available in two versions[3]:

   a. Exhibition survey mainly targeting citizens and including only multiple choice questions;
   b. Participatory activities survey targeting both citizens and other actors.

The visitor questionnaire was tested at Copernicus Science Centre on 6th December, at the end of pilot Reverse Science Café (RSC). The questionnaire was finalized following three main principles:

- **Clarity**: questions should be designed with clear, easy and understandable intention. In other words, it should be clear for both the interviewer and the respondent what the question is about and what kind of information/ answer we are looking for. To assess the questionnaire's clarity, additional tests will be run by KEA.

- **Cost-efficiency**: considering the high amount of questionnaires to be collected (4.592) and the limited resources at disposal, closed/multiple choice questions will in general be preferred to open questions as they represent the most efficient solution to get comparable results (i.e. open questions would require greater resources for translation and analysis).

- **Applicability** of the questionnaire to very different local contexts and departing points.

The Templates for Local Organisers and the Visitor Survey will be used in a complementary way with a view to address a number of research questions, and obtain the six key indicators that will help highlight the main research findings and project's results.

3 - See Annex I for a better overview of how the survey questions will be used to address the research objectives and obtain the agreed indicators.

TABLE 1 - RESEARCH QUESTIONS, INDICATORS, DATA COLLECTION TOOLS – OVERVIEW

Research questions		Indicators		Data collection tools
1	Have the Sparks's exhibition and activities formats facilitated multi-actor conversation around health?	1a.	Number and types of visitors overall attracted	Total number of visitors: local organisers
		1b.	% of visitors agreeing that the exhibition/activities was an opportunity to meet and discuss with different actors on an equitable basis	Typology of visitor: visitor survey
2	Which formats, amongst those tested did work best and how?	2.	Typology of formats which scored best in relation to their capacity to encourage dialogue	Visitor survey (level of agreement with a number of statements) Template (qualitative feedback from organisers)
3	What are visitors' views on:			
	3a. Actors to be involved in R&I in the field of health (WHO);	3a.	Most cited actors to be involved in R&I in healthcare (WHO);	Visitor survey
	3b. Motivations to take part in similar events in the future (WHY);	3b.	Most important motivations to engage (WHY);	Visitor survey
	3c. Science centres and museums as places of dialogue (WHERE);	3c.	% of visitors agreeing that science centres and museums are places of dialogue and % of visitors who were further convinced of this thanks to Sparks (WHERE);	Visitor survey

Whilst the survey will enable us to collect a high number of comparable data (through a sample of nearly 5.000 visitors), the Templates present in Annex I and II have the purpose to help the team better understand what worked and how in terms of public engagement, with inputs gathered both from the local organisers and local partnerships helping preparing and implementing the activities.

The final paper version of the questionnaire will be reviewed by a graphical designer in order to develop a visually clear and user-friendly layout. The digital version will follow the standard ODK layout (which will be seen only by the interviewer running the survey and not by the interviewer). The layout of the paper version may need adjustments by individual partners in order to fit the translation.

TEMPLATES FOR LOCAL ORGANISERS

CONTENTS & STRUCTURE

You have in this section the models for the Local Organiser templates divided in Annex I, II and a checklist. And the sample for a Visitor's Questionnaire, that includes Annex I, II and III.

LOCAL ORGANISER TEMPLATE

Annex I focuses on participatory activities and has to be completed after the end of four out of eight activities (see guidelines below). It has three sections:

- **Section I** aims at gathering general information about the activity (date and timing, typology of -activity, number of people attendees);
- **Section II** aims at collecting opinions on whether the tested formats encouraged dialogue - inspired by the Indicators of dialogue developed by Science Museum London (2003);
- **Section III** aims at understanding in more details what worked best and why;

Annex II has to be completed after the end of the exhibition period in order to get a more comprehensive feedback from local organisers. It has three sections:

- **Section I** aims at gathering information about the local partnerships, their involvement in the project and the stakeholder organisations willing to engage in RRI after the project.
- **Section II** aims at collecting information about local organisers' experience in hosting the exhibition as well as its impact on public engagement in RRI
- **Section III** aims at measuring the communication impact of the project at the local level

TEMPLATE FOR LOCAL ORGANISERS
ANNEX I:
ACTIVITIES

Name of the local organiser: _____

Country: _____

GUIDELINES:

- Count and take note of the number of participants to each participatory activity and report it here:

	Activity 1	Activity 2	Activity 3	Activity 4	Activity 5	Activity 6	Activity 7	Activity 8
Type of activity								
Number of participants								

TOT number of participants to all participatory activities (including invited experts):

TOT number of invited experts: _____

Fill-in four of the Template below after each one of the following activities:

- The Reverse Science Café;
- The optional activity;
- 2 of your own choice out of the 6 Science Espressos;

Please indicate the time and topic of the other 4 below:

Science Espresso 1	Science Espresso 2	Science Espresso 3	Science Espresso 4
Date: Time: Topic:	Date: Time: Topic:	Date: Time: Topic:	Date: Time: Topic:

- Send KEA the four Templates filled-in + TOT number of participants within 2 weeks after the end of the Sparks activities run locally.

SECTION I – INFORMATION ABOUT THE ACTIVITY

Date and time of the activity _____

Chosen format of the activity

1. ☐ Scenario workshop
2. ☐ Incubation workshop/Hackathon
3. ☐ Reverse science café
4. ☐ Science espresso
5. ☐ Pop-up Science shop

Main subject/theme or guiding questions for the chosen activity _____

Number of attendees for the chosen activity	**Scenario workshop**	**Incubation workshop/ Hackathon**	**Reverse science café**	**Science espresso**	**Pop-up Science shop**
	TOT (including invited experts):	TOT (including all sub mentioned groups):	TOT (including invited experts):	TOT (including invited experts):	TOT (including all sub mentioned groups):
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	Number of invited experts:	Mentors:	Number of invited experts:	Number of invited experts:	Clients:
	_____	_____	_____	_____	_____
	_____	Future users:	_____	_____	_____
	_____	_____	_____	_____	Students/ researchers:
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	Other experts/ stakeholders involved (specify):
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____

SECTION II – INDICATORS OF PUBLIC ENGAGEMENT

	1 Strongly agree	2 Moderately agree	3 Slightly agree	5 Slightly disagree	6 Moderately disagree	7 Strongly disagree	99 No opinion
1. The discussion required encouragement from the chair/moderator	☐	☐	☐	☐	☐	☐	☐
2. The discussion easily moved forward (i.e. new issues are raised)	☐	☐	☐	☐	☐	☐	☐
3. The audience expressed its willingness to be involved in this kind of activities in the future	☐	☐	☐	☐	☐	☐	☐
4. The participants continued the discussion after the event	☐	☐	☐	☐	☐	☐	☐

SECTION III – OVERALL ASSESSMENT

5. In your view, did any of these factors encourage multi-actor dialogue?	☐	☐	☐	☐	☐	☐	☐
The chosen topic	☐	☐	☐	☐	☐	☐	☐
Content inputs from the exhibition	☐	☐	☐	☐	☐	☐	☐
The way the topic was presented	☐	☐	☐	☐	☐	☐	☐
The physical location	☐	☐	☐	☐	☐	☐	☐
The presence of different actors and points of view	☐	☐	☐	☐	☐	☐	☐
The way the moderator animated the session	☐	☐	☐	☐	☐	☐	☐
Sufficient time to engage in the discussion	☐	☐	☐	☐	☐	☐	☐
The way contributions were treated	☐	☐	☐	☐	☐	☐	☐
The format of the activity	☐	☐	☐	☐	☐	☐	☐
Other:	☐	☐	☐	☐	☐	☐	☐

Out of this list, please present in more details the 2 "success factors" (or "do's") that stimulated multi-actor dialogue and the 2 "unsuccessful factors" (or "don'ts") and explain why/how: _____

_____ Max 800 characters

This only applies to the Reverse Science Café, the Scenario Workshop and the Pop-up Science Shop

6. Amongst the participants, were there people who have the "power" to implement ideas and take action (e.g. director, CEO, head of service or administration)?

1

☐ Yes

How did you manage to involve them? (please present your approach/strategy)

Max 600 characters _____

_____

_____

_____

_____ Max 600 characters

2

☐ No

What was your main difficulty in engaging decision makers and why could not you overcome it? _____

_____

_____

_____

_____ Max 600 characters

---

7. What are the main outcomes resulting from this activity?

1 ☐ New research inputs generated from the public

Please describe shortly: _____

_____

2 ☐ New (joint) projects

Please describe shortly: _____

_____

3 ☐ A new strategy/action plan

Please describe shortly: _____

_____

4 ☐ New or innovative collaborations taking shape

Please describe shortly: _____

_____

5 ☐ Other

Please describe shortly: _____

_____

For each of the marked options, please explain the purpose, the number of types of involved partners/stakeholders and timeline for implementation (if applicable): _____

_____

_____ Max 600 characters

8. Are you overall satisfied with this activity format?	1 Strongly agree	2 Moderately agree	3 Slightly agree	5 Slightly disagree	6 Moderately disagree	7 Strongly disagree	99 No opinion
	☐	☐	☐	☐	☐	☐	☐

9. Overall, did the whole procedure (proposed theme, methodological guidelines, training, etc.) meet your expectations?

1 ☐ Yes
2 ☐ No
Why?

_____ Max 600 characters

10. Are you willing to use it again in the future?	1 Strongly agree	2 Moderately agree	3 Slightly agree	5 Slightly disagree	6 Moderately disagree	7 Strongly disagree	99 No opinion
	☐	☐	☐	☐	☐	☐	☐

TEMPLATE FOR LOCAL ORGANISERS:
ANNEX II:
LOCAL PARTNERSHIPS, EXHIBITION AND COMMUNICATION

GUIDELINES:

- Towards the end of the exhibition period, collect feedback from the local partnership through a collective discussion during one of the four meetings foreseen or short online questionnaire and fill-in section I of the template below;

- Towards the end of the exhibition period reflect on your experience of hosting the exhibition with your team and share your thoughts in part II of the template below.

- After the end of the exhibition and activities, collect data regarding your communication outreach (online and offline) and fill-in part III of the template below.

- **Send KEA the Template filled-in within 2 weeks after the end of the Sparks activities run locally**

SECTION I - LOCAL PARTNERSHIPS

Composition of the local partnership	For each member, please specify the following: Organisation, Address, Represented stakeholder group (choose between Civil society, Education, Research, Industry/business, Government or public administration, Other (please specify)), Name and role of the contact person (not mandatory),
Involvement of the local partnership To complete this section, local organisers are required to consult the local partnerships towards the end of the exhibition period. Local organisers may choose to organise a workshop or set up a short online questionnaire (for instance on SurveyMonkey: https://www.surveymonkey.net)	For each partner or all the partners, please specify: Role in the activity: _____ Why they were involved: _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ (max 300 characters)

Meetings organised with partners:

Meetings	Date	Topic	Format
Meeting 1			
Meeting 2			
Meeting 3			
Meeting 4			
Others			

Changes that have taken place (or may take place) as a result of this activity, that directly affect the partner(s):

1. ☐ Better understanding of the science museum/centre as a place to stimulate multi-actor dialogue (only applicable when the activity takes place in a museum/centre)
2. ☐ New research inputs generated from the public
3. ☐ New (joint) projects
4. ☐ A new strategy/action plan
5. ☐ New or innovative collaborations taking shape
6. ☐ Other:_____

If you have marked options from 2 to 6, please explain the purpose, the number and types of partners/stakeholders involved and timeline for implementation (if applicable):

_____

_____

_____

_____

_____

_____ Max 600 characters

List of organisations willing to engage after the project and proof (informal manifestation of interest, signed agreement, etc.)	For each member, please specify the following: Organisation, Address, Represented stakeholder group (chose between Civil society, Education, Research, Industry/business, Government or public administration, Other (please specify)), Name and role of the contact person (not mandatory)

SECTION II – EXHIBITION

Dates when the exhibition was open to the public	From … / … / …. to … /… /….
Total number of visitors (based on ticket count)	_____ _____ _____
Where did the exhibition take place?	1. ☐ Science museum or centre 2. ☐ Other Please specify the location name: _____
Which exhibit/ story was the most engaging for your visitors?	1. ☐ Story 1 2. ☐ Story 2 3. ☐ Story 3 4. ☐ Story 4 5. ☐ Story 5 6. ☐ Story 6 7. ☐ Story 7 Please explain why, in your view: _____ _____ _____ _____
Which one was the least engaging?	1. ☐ Story 1 2. ☐ Story 2 3. ☐ Story 3 4. ☐ Story 4 5. ☐ Story 5 6. ☐ Story 6 7. ☐ Story 7 Please explain why, in your view: _____ _____ _____ _____ _____

Please provide a detailed description of your local case study

What was the topic? Please describe the exhibit showcased: _____

Who have you worked with to create it? _____

How did you set up the team to create the local case study? _____

Was the RRI approach something difficult to tackle? Why? _____

If so, how did you address these difficulties? _____

Please include maximum 3 high quality pictures or a short video (interview, virtual tour...) of max. 2 minutes, in the form of a YouTube/Vimeo link or a video file.

What was the general impression of visitors of the exhibition? (when answering this question please consider what you heard from visitors or reactions on your social media)	Please include a selection of max. 10 significant comments (positive and/or negative) from visitors on social media, your Golden Book or any other source (please specify the source). Please translate them in English.
After running the exhibition, what do you think about the topic and the approach taken by Sparks?	
How good are participatory research and citizen science as topics to engage your public?	
Compared to previous exhibition(s) on similar topics/ with similar formats, what did you find unique in Sparks? What did work best? What did not work?	

Describe please how the exhibition process met your expectations

Please reflect on how the exhibition contributed to the understanding by the general public of a new way of doing science in the field of health and medicine

In your opinion was the exhibition a successful means:

- to engage the public on the topic of RRI?

1. ☐ Yes
2. ☐ No

Can you tell us what elements made this success?:

- to engage the public in technology shifts in health and medicine?

1. ☐ Yes
2. ☐ No

Why?:

Is there anything you would have changed with the exhibition content or design and the way the process was organised?

SECTION III – COMMUNICATION

Communication activity

To complete the section on online communication activities, local organisers are required to consult the statistic tools linked to or embedded in their website, social media profiles and other communication platforms (e.g. Google Analytics, Facebook and Twitter statistics, Hootsuite, Buffer, MailChimp etc.)

- **WEBSITE**

How many unique visits did your Sparks webpage/website get since its launch? _____

_____

_____

- **SOCIAL MEDIA**

Did you set up (a) separate Sparks account-s on social media?

1. ☐ Yes
2. ☐ No

If Yes which social media? _____

_____

how many followers did you get on each of them?: _____

_____

_____

For each social media, how many people did the most successful (most liked/shared/ retweeted) post about Sparks reach? _____

_____

_____

- **PRESS RELEASE**

Did you send a press release to announce the exhibition coming to your country? _____

_____

_____

To how many people was it sent? _____

_____

_____

Did you use other online communication tools (e-newsletter, e-magazine, etc.)? _____

_____

_____

For each of them, how many people did you reach? _____

_____

_____

- **PRINTED PROMOTIONAL MATERIAL**

How many postcards did you distribute? _____

_____

Did you use other printed promotional material (printed newsletter, magazine, etc.)? ____

_____

How many copies did you issue? _____

_____

Media coverage

Please provide the following information about the **media event** your organised:

Number of media invited: _____

_____

Number of attendees: _____

_____

Please provide max. 3 (good quality) pictures or a short video (max. 2 min) of the event.

Please attach all related press clippings and/or links to articles/blogs/TV or radio programmes reporting on the project.

Total number of local media reporting on the project: How many postcards did you distribute? _____

_____

Presentation at a local event

Please provide the following information about the event:

Title: _____

Organiser: _____

City: _____

Date: _____

Number of attendees: _____

Audience type (e.g. policy makers, scientists, academy, etc.) _____

Please attach the following material:

- 3 relevant high quality photos
- press clippings
- video recording (if available)

CHECKLIST

- ☐ I have completed 4 templates of Annex I
- ☐ I have completed 1 template of Annex II

As required in the templates, please make sure you attach the following:

- ☐ pictures of the exhibition (3 max) or a short (max. 2 min.) video
- ☐ significant comments on the exhibition (max. 10, translated in English)
- ☐ pictures of the local case study
- ☐ press clippings and/or links to articles/blogs/TV or radio programmes reporting on the project
- ☐ pictures of the media event you organised or a short (max. 2 min) video
- ☐ pictures of the local event where Sparks was presented
- ☐ press clippings related to this event where Sparks is mentioned
- ☐ video recording (if available)

VISITOR'S SURVEY

VISITOR'S SURVEY
ANNEX I:
RESEARCH OBJECTIVES, INDICATORS AND RELATED SURVEY QUESTIONS

Research objectives	Indicators	Related questions
1. Find whether Sparks formats have facilitated multi-actor dialogue in scientific research (according to both visitors and local organisers)	1. Number and types of visitors overall attracted; 2. % of visitors agreeing that the exhibition/activities encouraged them to share their thoughts;	Q8 – Q13 (socio-demographic questions) Q1) I have just attended one of following events Q2) My impressions about the attended event…
2. Understand which formats best facilitated such dialogue (according to both visitors and local organisers) and how (topic, physical location, etc.)	3. Typology of formats which scored best in relation to their capacity to encourage dialogue; 4. 'Factors' which mostly encouraged dialogue	Q1) I have just attended one of following events Q2) My impressions about the attended event… *(best scoring formats)* Q3) How much do you agree with the following statements? + correlation analysis between Q2) and Q3) items to understand which 'elements' are mostly correlated with dialogue (topic, physical setting, moderation, etc.)
3. Gather visitors' views on multi-actor dialogue (who should engage, when you would engage, where, etc.) in order to understand under which circumstances different types of visitors would be willing to take part in scientific research (particularly in the field of health). 1 - For each item in Q2), we will calculate the average score (from 1 to 7) and then rank the formats according to the scores obtained.	5. % of respondents wishing to attend similar kinds of events in the future, controlling for interest in science; 6. Most cited actors to be involved in R&I in health (WHO); 7. Most important motivations to engage (WHY); 8. % of visitors agreeing that science centre and museums are places of dialogue and % of visitors who were further convinced of this thanks to the "Sparks experience" (WHERE);	Q5) Would you like to take part to similar exhibitions/activities in the future? + Q12) on interest in science Q4) After having taken part to the exhibition/activity, which of the following actors do you think should be involved in Research & Innovation? (WHO) Q6) I would attend the following event if... (WHY) Q7) Do you agree with the following statement: "I find science museums and centres an appropriate place to share thoughts and debate"? (WHERE) + analysis per gender, education, age group and interest in science to identify preferences for different 'visitor types'

ANNEX II:
VISITOR QUESTIONNAIRE

SPARKS VISITOR SURVEY

Introductory questions
(for exhibition survey only because assisted by interviewers)

Good morning, I am currently carrying out a survey to assess how well [museum name] stimulates dialogue about science and healthcare. Your opinion is crucial to understand how to better engage with you. Would you be willing to answer a couple of questions? (Duration: around 5 min.)

Are you 18 or older?

1. ☐ Yes
2. ☐ No

If yes, the tablet will automatically open the questionnaire for adults, otherwise it will open the version developed for young people (12-17). Only school groups with students between 12 and 16 years old will be approached.

Are you under 15?

1. ☐ Yes
2. ☐ No

Young people under 15 will be distributed a paper copy of the questionnaire together with a form for parents/tutors to fill-in in to approve their participation to the survey. Filled-in questionnaires and forms will have to be sent back to the partner organising the exhibition.

Where you find 'only for exhibition' or 'only for activities', it means that the question/answer option in question will appear only in one of the two questionnaires (for activities or for exhibition).

PART I – ASSESSMENT OF SPARKS ACTIVITIES

1. I have just attended one of following events (*only one answer possible*):

N.B.: If you have attended more events, please choose just one and answer the next questions in relation to the event of your choice.

1. ☐ Exhibition
2. ☐ Scenario workshop
3. ☐ Incubation workshop/Hackaton
4. ☐ Reverse science café
5. ☐ Science espresso
6. ☐ Pop-up Science shop

2. My impressions about the attended event… (*exhibition only: with show card*[1] *with Likert-scale*)

	1 Strongly agree	2 Moderately agree	3 Slightly agree	5 Slightly disagree	6 Moderately disagree	7 Strongly disagree	99 No opinion
I felt encouraged to share my thoughts	☐	☐	☐	☐	☐	☐	☐
I now feel more confident to participate in discussions around health	☐	☐	☐	☐	☐	☐	☐
I feel inspired to continue the discussion around health after the event (for exhibition: 'I feel inspired to continue the discussion around health after visiting the exhibition')	☐	☐	☐	☐	☐	☐	☐

3 How much do you agree with the following statements?

(exhibition only: with show card with Likert-scale)

	1 Strongly agree	2 Moderately agree	3 Slightly agree	5 Slightly disagree	6 Moderately disagree	7 Strongly disagree	99 No opinion
The chosen topic was relevant to me	☐	☐	☐	☐	☐	☐	☐
The topic was presented in a thought provoking way	☐	☐	☐	☐	☐	☐	☐
The art works triggered my interest (only for the exhibition)	☐	☐	☐	☐	☐	☐	☐
There was enough information to understand the topic	☐	☐	☐	☐	☐	☐	☐

1- See example in Annex III.

PART II – READINESS TO ENGAGE

4. After having visited the exhibition, who do you think should play a role in Research & Innovation in the field of health? *(multiple answers possible)*

1. ☐ Individual citizens
2. ☐ Business & Industry
3. ☐ Government
4. ☐ Scientists
5. ☐ Educational community
6. ☐ Civil society organisations
7. ☐ Other, namely:

5. Would you like to take part to similar exhibitions in the future?

1. ☐ Yes, more frequently than now
2. ☐ Yes, as frequently as now
3. ☐ Yes, but less frequently than now
4. ☐ Do not know
5. ☐ No, never

If you have answered 'yes', go to question 6. If you have answered 'Do not know' or 'No, never', go to question 8.

6. **I would like to attend similar activities in the future if … - Please rate the following items in terms of importance** *(exhibition only: with show card with Likert-scale)*

	1 Strongly agree	2 Moderately agree	3 Slightly agree	5 Slightly disagree	6 Moderately disagree	7 Strongly disagree	99 No opinion
The topic is directly relevant to me	☐	☐	☐	☐	☐	☐	☐
The format of the event is similar to the one that I have just attended	☐	☐	☐	☐	☐	☐	☐
I have the opportunity to share my thoughts	☐	☐	☐	☐	☐	☐	☐
I can speak with experts	☐	☐	☐	☐	☐	☐	☐
I can discover new scientific tools	☐	☐	☐	☐	☐	☐	☐

Other _____

7. **Do you agree with the following statement: "I find science museums and centres an appropriate place to share thoughts and debate"?**
(exhibition only: with show card with answer options)

N.B. = if the event that you have just attended did not take place in a science museum or centre, please skip this question and go to question 8.

1. ☐ Yes, and I already knew before this event
2. ☐ Yes, and my experience today further convinced me
3. ☐ Not really
4. ☐ Do not know

PART III –
SOME INFORMATION ABOUT YOU

8. In which year were you born? _____

9. Please, indicate your gender:

1. ☐ Male
2. ☐ Female
3. ☐ Prefer not to say
4. ☐ Other _____

10. What is the highest level of education that you have completed?

(*exhibition only: with show card with answer options*)

- ☐ Primary Education
- ☐ Secondary Education
- ☐ Higher education (Bachelor or Master)
- ☐ Doctoral or higher level

11. Do you work in any science-related field?

1. ☐ Yes
2. ☐ No
2. ☐ Currently, I am not working

12. How much do you agree with the following statement?

(exhibition only: with show card with Likert-scale)

	1 Strongly agree	2 Moderately agree	3 Slightly agree	5 Slightly disagree	6 Moderately disagree	7 Strongly disagree	99 No opinion
I am interested in science	☐	☐	☐	☐	☐	☐	☐
I am interested in health	☐	☐	☐	☐	☐	☐	☐
I read or find out about science/health on a regular basis	☐	☐	☐	☐	☐	☐	☐

13. In which field are you currently active?

(for professional, volunteering or other reason) – multiple answers possible:

	Yes	*No*
Civil society organisation	☐	☐
Education	☐	☐
Research	☐	☐
Industry/business	☐	☐
Government or public administration	☐	☐

Other: _____

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION!

Your responses will be treated in complete confidentiality and with anonymity.

ANNEX III: SHOW CARD

A showcard is a visual list of answer options (e.g. Likert scale) that the interviewer will provide the respondent with to facilitate and accelerate the interview process.

Figure 1 - Example of showcard

SPARKS

RETHINKING INNOVATION. TOGETHER.

www.sparksproject.eu

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HORIZON 2020

Graphic design gebr.silvestri.nl