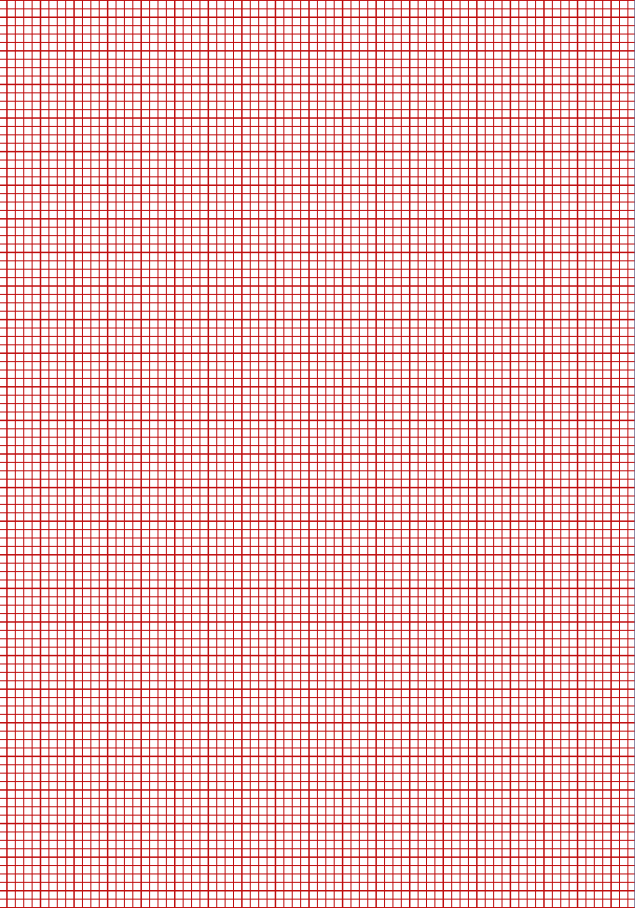


Self- Reflection Tool

Fostering Responsible
Research and Innovation



Self Reflection Tool

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The NewHoRRlzon Project sets out to promote the acceptance of RRI in Horizon 2020 and beyond. It elaborates the conceptual and operational basis to fully integrate RRI into European and national research and innovation practice and funding. Altogether, NewHoRRlzon establishes 19 Social Labs covering all sections of the H2020 funding scheme. Together with a wide-ranging group of R&I stakeholders, in these Social Labs NewHoRRlzon co-creates tailor-made pilot actions that stimulate an increased use and acceptance of RRI across H2020 and beyond.

This Self Reflection Tool supports you in starting a reflection process based on RRI principles to help you improve your research and innovation practices.

It provides questions addressing all stakeholder groups. It is divided in six fields, according to the RRI policy agendas: Ethics, Gender Equality, Governance, Open Access, Public Engagement, and Science Education.

For each policy agenda you are offered a few questions and inspiring answers that should help you to reflect on your own RRI practice.



RRI CONCEPT

Engaging all actors

RRI entails engaging all actors (from individual researchers and innovators to institutions and governments) through inclusive, participatory methodologies in all stages of R&I (Research and Innovation) processes and in all levels of R&I governance (from agenda setting, to design, implementation, and evaluation).



— Policy makers



— Educators



— Researcher



— Civil Society



— Business and
industry innovators

Addressing Grand Challenges

RRI tackles societal challenges — like the seven Grand Challenges formulated by the EC — and aligns to values, needs and expectations of a wide public.

This makes research agendas more diverse and takes real-world complexities better into account.



— Health, demographic change and wellbeing



— Food agriculture, forestry and water



— Secure, clean and efficient energy



— Smart, green and integrated transport



— Climate action, environment and resources



— Inclusive, innovative and reflective societies



— Freedom and security of Europe and its citizens

The EC has identified six key dimensions which are powerful policy agendas to realize RRI processes and outcomes.

Ethics



focuses on (1) research integrity: the prevention of unacceptable research and research practices; and (2) science and society: the ethical acceptability of scientific and technological developments.

Gender Equality



is about promoting gender balanced teams, ensuring gender balance in decision-making bodies, and considering always the gender dimension in R&I to improve the quality and social relevance of the results.

Governance



arrangements that lead to acceptable and desirable futures have to (1) be robust and adaptable to the unpredictable development of R&I (de facto governance); (2) be familiar enough to align with existing practices in R&I; (3) share responsibility and accountability among all actors; and (4) provide governance instruments to actually foster this shared responsibility.

Open Access



addresses issues of accessibility to and ownership of scientific information. Free and earlier access to scientific work might improve the quality of scientific research and facilitate fast innovation, constructive collaborations among peers, and productive dialogue with civil society.

Public Engagement



fosters R&I processes that are collaborative and multi actor: all societal actors work together during the whole process in order to align its outcomes to the values, needs and expectations of society.

Science Education



focuses on (1) enhancing the current education process to better equip citizens with the necessary knowledge and skills so they can participate in R&I debates; and (2) increasing the number of researchers (promote scientific vocations).

Process requirements

RRI requires processes that are:



Diverse and inclusive:

Involve early a wide range of actors and publics in R&I practice, deliberation, and decision-making to yield more useful and higher quality knowledge.



Anticipative and reflective:

Envision impacts and reflect on the underlying assumptions, values, and purposes to better understand how R&I shapes the future.



Open and transparent:

Communicate in a balanced, meaningful way methods, results, conclusions, and implications to enable public scrutiny and dialogue.



Responsive and adaptive to change:

Be able to modify modes of thought and behaviour, overarching organizational structures, in response to changing circumstances, knowledge, and perspectives.

Desired Outcomes

Learning Outcomes

- Engaged publics
- Responsible actors
- Responsible institutions

RRI leads to empowered, responsible actors across our R&I systems (researchers, policymakers, business and innovators, CSOs, educators). Structures and organisations should create opportunities for a provide support to actors to be responsible, ensuring that RRI becomes — and remains — a solid and continuous reality.

R&I Outcomes

- Ethically acceptable
- Sustainable
- Socially desirable

RRI practices strive for ethically acceptable, sustainable, and socially desirable outcomes. Solutions are found in opening up science through continuous, meaningful deliberation to incorporate societal voices in R&I, which leads to relevant applications of science.

Solutions to Societal Challenges

- Seven Grand Challenges

RRI endeavours to contribute to finding solutions for the Grand Challenges.



ETHICS

001

How do you ensure the integrity of your R&I practices?

- Aligning our practices with the Code of Conduct for Research Integrity in all phases, from research design to reporting results
- Encouraging critical peer review and internal discussion on research integrity throughout the process
- Consulting an external research ethics expert or ethics committee

002

*Who is involved
in ethics-related
reflection and
decision-making
for your
R&I practices,
and how?*

- We engage all R&I actors and beneficiaries (civil society organisations, local government, education community, customers, patients, families, etc.), through...
- We involve selected actors through different channels, because...
- We do not include external actors, because...

003

How do you provide for different values, interests and ideals?

- Having strong guidelines protecting our principles
- Resolving differences through rational arguments
- Acknowledging different values, interests and ideals
- Addressing conflicts of interest

004

*How do you
prevent
potentially
harmful impacts
on the public
or the
environment?*

- Anticipating the benefits and risks of our project
- Ensuring project outcomes are used responsibly even after the project ends
- We do not make an effort to prevent harmful impacts, because...

005

What are possible strategies for preventing the negative implications of your R&I practices?

- Being responsive to external inputs
- Ensuring transparency and open access from the beginning
- Looking long-term and anticipating possible negative side effects (for example, creating social inequality, being environmentally harmful)

006

*What are
possible ethical
considerations
for your
R&I practices?*

- Environmental impacts
- Human and animal health impacts
- Local economic and development impacts
- Social justice
- Education
- Data management

007

Who should be responsible for the impacts of R&I?

- Responsibility should be shared among all actors involved (scientists, policy makers, research institutions, universities, industry, civil society organisations, etc.), because...
- Responsibility should lie with the individual researchers throughout the entire process, because...

008

How may your work benefit from incorporating ethics?

- Avoiding possible research misconduct or market failure
- Gaining credibility
- Improving quality by aligning our work with integrity principles and standards
- Winning greater support from other actors by being open, transparent and honest
- Developing new perspectives and ideas and creating new R&I opportunities



**GENDER
EQUALITY**

009

Does your organisation have a gender equality plan?

- A plan has been described and implemented
- A plan has been described, but not yet implemented
- Some gender equality strategies have been added to our overall strategy
- There is no gender equality plan, because...

010

How do you address gender stereotypes?

- We aim to identify any gender stereotypes in our activities
- We discuss what we can do to avoid gender stereotypes
- We address biased attitudes, treatments and discrimination
- We are not active in trying to break gender stereotypes, because...

011

What are your organisation's gender equality practices regarding staff and working conditions?

- We aim for gender-balanced teams
- We aim for gender-balanced management positions
- We have family-friendly work spaces
- We have equal salary guarantees
- We have equal contract conditions
- We promote awareness and support of diverse working approaches
- We do not prioritise gender equality, because...

012

How is gender equality evaluated within your organisation?

- We have specific actions and criteria for evaluating gender equality
- We have a team dedicated to evaluating gender equality
- We evaluate gender awareness through career development activities
- We monitor gender balance of teams
- We do not prioritise evaluating gender equality, because...

013

*How is gender
in education,
communication
or training
supported at your
organisation?*

- We provide gender equality training
- We consider gender sensibility in our publications
- We emphasise gender awareness in training activities
- We stress gender awareness in all our activities
- We do not address gender in education, communication or training, because...

014

How is gender equality addressed in your R&I practices?

- Gender-balanced teams
- Sex and gender considered in our chosen topics
- Sex and gender considered in our methodology
- Sex and gender considered in our data
- Gender-balanced publication strategies
- Gender considered in our dissemination activities
- Gender equality is not considered in our R&I practices, because...



GOVERNANCE

015

What governance instruments does your organisation provide to foster shared responsibility in R&I?

- Following inclusion and diversity strategies
- Making policies and strategies open and transparent to all actors involved
- Responding to emerging knowledge, perspectives, views and norms, by...
- Investing resources to make our innovations more responsive to societal needs and concerns
- Employing an RRI governance plan

016

Who is involved in setting your R&I agenda?

- Management or advisory boards
- Funding organisations
- Different stakeholders
- Other teams and colleagues
- Members of the public

017

*How are views
from other
research or
societal groups
included in your
R&I practice?*

- Exchanging views with peers, researchers and innovators from other disciplines
- Talking with potentially affected groups and end users
- Considering a wide range of relevant stakeholder groups, such as...
- Working collaboratively with...

018

How do you ensure your R&I practices can adapt to unforeseen results or societal changes?

- Being open to emerging societal needs
- Changing the research plan, if needed, in response to unforeseen results
- Maintaining dialogue with different stakeholders so we can change the practice as a response to critique or changed perspectives

019

What resource allocations allow responsible improvements to your R&I practice?

- Providing time for reflection
- Sharing experiences with others, internally or externally
- Consulting external experts in the fields of (for example, ethics, gender equality...)
- Encouraging participation in RRI workshops and training
- Appointing a staff RRI expert

020

What RRI-related training opportunities do you have (gender equality, ethics, open science, etc.)?

- Attending related conferences...
- Participating in training on...
- Developing training materials on...
- Offering training in...

021

*What
organisational
changes
are needed to
adapt your
R&I processes
to stakeholders'
input?*

- Modifying our science governance system so it responds to public demands
- Creating/implementing structures that enable engagement
- Setting up incentive systems to encourage changes
- Making accountability and transparency are the bedrock of every stage
- Practising open science



**OPEN
ACCESS**

022

How does your organisation approach open access policies?

- We have successfully implemented open access policies, such as...
- We have open access policies, but they are rarely considered, because...
- We would benefit from developing open access policies, such as...
- We do not need open access policies, because...

023

How are open access policies integrated in your organisation?

- They are in our mission statement
- We communicate our open access policies
- We provide to our staff training on open access
- Open access policies are not relevant, because...

024

How transparent is the ownership of your work outcomes?

- Ownership is clearly and easily traceable for all
- Ownership is transparent and traceable for certain people only, because...
- Ownership is unclear, because...

025

Which parts of your work are open access?

- Objectives, aims and goals
- Methodologies
- Data
- Preliminary results
- Final results
- Uncertainties and limitations

026

*With whom
do you share
the results
of your work?*

- Results are shared with all actors involved or affected
- Results are shared with only some actors, because...
- Sharing results with different actors is not necessary, because...

027

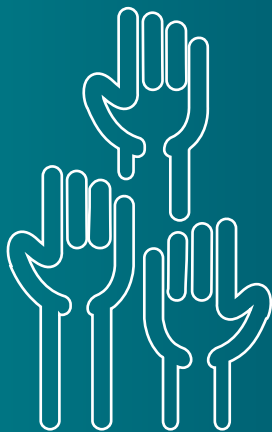
What framework conditions are made transparent to actors involved?

- Structures for feedback and decision trails
- Overview of financial means and expenditures
- Declaration of interests and affiliations of all actors

028

How are your communication activities made accessible to diverse stakeholders?

- Our website follows e-accessibility standards
- Outreach activities are inclusive (regardless of gender, ethnicity, special needs, etc.)
- Events (training, workshops, meetings, etc.) have accessible premises
- Accessibility is not a major issue, because...



PUBLIC ENGAGEMENT

029

How do you involve stakeholders and the public in your work?

- Conducting outreach activities and reflecting on them during team meetings
- Communicating regularly with different stakeholders
- Requesting regularly feedback from affected actors
- Incorporating the results of public consultations in our plans
- Establishing spaces for deliberation where projects can be run collaboratively

030

What channels do you use to enable stakeholder participation in the R&I process?

- Seeking ongoing input and feedback from stakeholders
- Seeking collaboration of diverse stakeholders through co-creation methods
- Leveraging social media to promote reflection and get different voices involved
- Offering public discussion sessions on trendy R&I topics
- Fostering encounters between R&I institutions and the general public
- Using our venue or partnering with other venues to offer R&I experiences to different audiences

031

*At which stage
of the R&I process
is it most effective
for you to engage
stakeholders,
and why?*

- During all stages, because...
- During the exploration phase (for example, research agenda setting), because...
- During the development phase (for example, project definition), because...
- During the implementation phase (for example, the technology transfer and innovation process), because...
- During the monitoring and evaluation phase, because...
- During the dissemination phase, because...
- It depends on the context, because...

032

What does public engagement in the decision-making process mean in your work or organisation?

- Encouraging co-decision by different stakeholders, including civil society organisations
- Validating the pathways we take as an organisation
- Legitimising the societal value of our research topics
- Including stakeholders' views makes our actions more meaningful

033

What dimensions are usually discussed during your engagement activities?

- Values, needs and perceptions important to stakeholders
- Framing of R&I questions
- R&I methodologies
- Possible impacts (ethical, legal, economic, environmental, social)
- Role responsibilities
- Potential improvements to the R&I process
- We do not hold public engagement activities, because...

034

*How do you tailor
R&I processes
to include
stakeholders with
different genders,
ethnicities, classes,
ages, routines,
experience, or
levels of power?*

- Considering studies and consultations in our strategic plan
- Running open consultations and including the results in our mission
- Considering the needs of different groups in our programme development
- Adapting the language according to the target group

035

How do you ensure that stakeholders understand and accept their roles and the objectives of their engagement?

- Providing clear statements about their roles and what can they expect from the results
- Giving briefings about public engagement to explain its benefits
- Negotiating with stakeholders and members of the public on their preferred roles and objectives

036

*What measures
would have
a direct impact
on your
multi-stakeholder
engagement
activities?*

- Financial resources
to organise activities
and create related documents
- Human resources
for engagement programmes
- Political support
for public engagement
at a governance level
- Public spaces for events

037

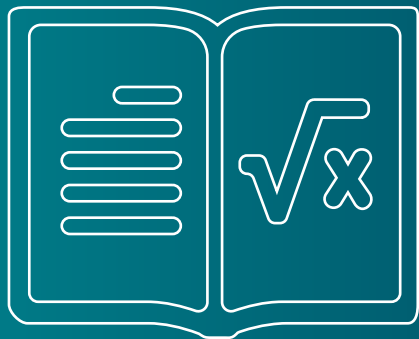
*What effects
do your
engagement
activities have
on public
participants
and on your
R&I processes?*

- Improving participants' skills
- Empowering participants
- Enhancing participants' self-confidence
- Facilitating better solutions for societal needs
- Increasing legitimacy and social acceptance of research and science centres
- Revealing possible impacts not yet envisaged

038

How do you address critical aspects of public engagement activities?

- Providing adequate time and human resources
- Supplying sufficient financial resources
- Reflecting on our own attitudes towards public engagement
- Defining the level of participation (for example, from consultation to co-decision)
- Evaluating the activity's significance for our research process



SCIENCE EDUCATION

039

What motivates you to involve research-and-society issues in your science education projects?

- Making science education and STEM (Science, Technology, Engineering and Mathematics) careers attractive to both women and men
- Supporting citizens in making informed decisions
- Enabling learners to play active roles in R&I processes
- Helping put STEM within its societal context
- Increasing stakeholder awareness that R&I can create solutions affecting their daily lives
- Encouraging stakeholder participation in R&I

040

How do you encourage stakeholder participation in R&I?

- Working on real-life challenges or current R&I projects involving STEM topics with ethical, legal or social aspects
- Employing innovative teaching methods, such as inquiry-based learning, project-based learning, cooperative learning methods, etc.
- Using diverse methodologies to engage different stakeholders, such as community based research, participatory governance initiatives, etc.

041

Which stakeholders are taking part in your education activities, and why?

- Formal education providers, because...
- Informal education providers, because...
- Industry representatives, because...
- Civil society organisations, because...
- Research community members (researchers, technicians, communicators, etc.), because...
- Policy and decision makers, because...
- Families, because...
- Citizens, because...

042

How do you promote reflection on R&I in your science education activities?

- Conferring on different values, needs and perceptions, such as health inequality, animal welfare, fair investment...
- Making room for deliberations on how to frame R&I questions
- Discussing R&I methods and potential improvements to the R&I process
- Analysing the roles of the different stakeholders

043

*How do you
promote reflection
on R&I's impacts
(ethical, social,
legal, economic,
environmental)
in your science
education
activities?*

- We reflect on the expected impacts by...
- We reflect on the unexpected impacts by...
- We do not normally reflect on the impacts of R&I, because...

044

*What stages
of the R&I process
are covered in
your educational
activities,
and why?*

- All stages, because....
- Exploration, because...
- Development, because...
- Implementation, because...
- Monitoring and evaluation, because...
- Dissemination, because...

045

How do you provide tailored information and education resources to specific stakeholder groups?

- Utilising a variety of media
- Adapting text according to target groups
- Modifying styles and formats according to target groups
- Using different outreach channels (including innovative science communication formats)
- Conducting assorted outreach events

046

*Do you have
further
questions for
your reflection?*

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