MARINA*zine*

Our engagement with the Ocean

In this issue

Beyond MARINA, more MARINA. Exploiting what we gained!

Marine Knowledge Platform, RRI Roadmap, MARINApedia and more

Ocean Dialogues 2019 and MARINA Final Conference

Ethics and Governance towards Horizon Europe

Communicating in Horizon 2020: engage with the RRI Community and beyond

... and more

Ethics and Governance in the context of RRI

by Mara Gualandi, Italian SWAFS (Science with and for Society) Horizon 2020 National Contact Point

ETHICS

Responsible Research and Innovation (RRI) is the on-going process of aligning research and innovation to the values, needs and expectations of society. The general definition gives already a strong direction and assumes an equilibrium between values, needs and expectations.

Ethics is an integral part of research from the beginning to the end. It is only by properly considering ethics that research excellence can be achieved. Ethical research conduct implies the application of fundamental ethical principles and legislation to scientific research in all possible domains of research – for example biomedical research, nature sciences, social sciences and humanities.

Ethics requires that research and innovation respects fundamental rights and the highest ethical standards in order to ensure increased societal relevance and acceptability of research and innovation outcomes.

In order to mitigate and reduce the risks, European, national and international ethics bodies should collaborate actively and on multiple levels: within the EU, between the EU and other high-income countries, and between high-income and low-income countries, where the risks of dumping is higher. Good practices shall be identified to elaborate a code of conduct for all actors.

GOVERNANCE

Governance of RRI consists of **any form of coordination designed to foster and mainstream RRI** within an organisation or in the interaction with other stakeholders.

Govern R&I according to RRI principles means to be inclusive, transparent, reflective and adaptive. Thinking ahead starts by implementing RRI now, identifying social needs and working towards suitable solutions. Many practices already incorporate aspects of RRI: it is now time to make them explicit and optimize them.

Ready to go from public engagement to publicly engaged R&I? Choose governance process that leads to effective RRI.

Welcome message

The MARINA project is coming to an end: this number of MARINAzine offers us the opportunity for shortly summarising the results reached so far and those to be fulfilled by the end of the project.

MARINA has promoted a large debate on the marine challenges engaging stakeholders from the quadruple helix (i.e. scientists, civil society actors, businesses, policy makers) in a knowledge building and sharing process with a view to discussing those issues and their potential solutions, while adopting the perspective of Responsible Research and Innovation (RRI). All the knowledge is built and shared in the **MARINA Knowledge Sharing Platform** (www.marinaproject.eu). The MARINA platform is used to interact and discuss on innovative and responsible approaches, actions and researches, facing marine and societal challenges. MARINA organized **45 Mobilization and Mutual Learning (MML) workshops** and their results are shared in the Events section on the MARINA Platform. Starting from the MML workshops, **504 Lessons learned and Good practices** aiming to facilitate the organization of workshops in the perspective of RRI were extracted, classified and made accessible on the MARINA Platform.

Based on the MML workshops, the Lessons learned and Good practices, a Roadmap has been defined. The **RRI Roadmap** provides a guidance for involving societal actors in defining common goals and action plans related to marine issues. The Roadmap can be used in other sectors.

MARINA also started to prepare **Policy briefs** for future institutional use across Europe that focus on the institutionalization of RRI principles and effort into the policy making process.

In March and April 2019, MARINA organised:

- **MARINA Scientific Conference (2019) titled "Science, Innovation and Blue Society" #MARINARRI19**
- **the Ocean Dialogues 2019 event jointly organised by the H2020 research projects MARINA and ResponSEAble – in cooperation with the European Parliament – SEARICA intergroup & IOC UNESCO.**

Follow our activities, join the MARINA community at www.marinaproject.eu & contribute to the discussion!

Fernando Ferri
MARINA Project Coordinator

Summary

Ocean Dialogues 2019

MARINA International Conference 2019

Responsible Marine Research, Innovation, Science and Society: MARINA International Conferences

by Iwona Gin, Nausicaà

Three annual conferences about Responsible Marine Research, Innovation, Science and Society are included in the activities of the MARINA project - Marine Knowledge Sharing Platform for Federating Responsible Research and Innovation Communities, funded by the Horizon 2020 Research and Innovation Programme of the European Union.

The concept of Responsible Research and Innovation is part of the Europe's 2020 strategy. It encourages a collaboration across disciplines among scientists, industry, citizens and policy makers, and empowers the European society to deal with current challenges and ensure that its needs are integrated in research, innovation and governance.

Responsible Research and Innovation are characterised by six key dimensions: *Public Engagement, Science Education, Open Access, Gender Equality, Governance and Ethics*[1].

---

1 https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation

Pictograms courtesy of RRI Tools

The **first annual international conference** about Responsible Research, Innovation, Science and Society was launched in Rome in Italy on 26th September 2017. It assembled researchers and academia who discussed their work from the perspective of Responsible Research and Innovation (RRI), social and marine sciences, highlighted examples where the implementation of the RRI principles contributed to solving current societal challenges, and envisaged their further implications.

The **second international conference** about Marine Responsible Research, Innovation, Science and Society was held in Tartu in Estonia in 2018. Participants presented their findings and best practice gained in marine research activities and projects in relation to Responsible Research and Innovation. The focus was given to **Blue Growth**[2], a long-term strategy of the European Union that aims at boosting sustainable development in the marine and maritime sectors in Europe, and especially the growth of aquaculture, coastal tourism, marine biotechnologies, ocean energy and deep-sea mining.

The **third international conference** *Science, Innovation and Blue Society – Our Engagement with the Ocean* **took place on 12-13 March 2019**. It was hosted by Nausicaá, National Sea Centre in Boulogne sur Mer in France. This time the conference assembled European researchers who shared their findings about RRI, marine and coastal issues, Blue Growth, and Blue Society.

The **Blue Society** is an informed, "ocean-literate" and responsible society that benefits from marine resources

---

2 https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation

while preserving their environmental integrity and functioning. It relies on Blue Growth and sustainable governance of the Ocean, a common heritage, collectively managed across sectors and borders. Equity, education, the effective enforcement of policies, science-informed action and the development of cross-sector partnerships are its key components.

Participants of the conference discussed findings and outcomes of projects or research activities in the marine domain where the implementation of the RRI contributed to solving marine and societal challenges and establishing the Blue Society. The focus was on innovative approaches to using and managing marine resources and services in relation to:

- Tourism and coastal cities
- Pollution caused by human and sea pressures
- Fisheries and aquaculture

- Renewable energy (wave, wind, tidal)
- Ocean and climate change
- Marine biotechnologies
- Sea transportation
- Deep sea mining
- Ocean literacy and education

The conference aspires to **contribute to the Blue Society governance model where the marine environment is managed efficiently to meet societal needs**, whilst its capital is protected to give future generations the opportunity to enjoy and benefit from the services and resources provided by a healthy ocean[3].
Visit the Conference official website Science, Innovation and Blue Society – Our Engagement with the Ocean and find soon the Conference proceedings on MARINA Platform. ■

3 UICN Bureau Regional pour l'Europe, D5.5 Definition of the Blue Society, Sea for Society, 2015

© David Lebeau
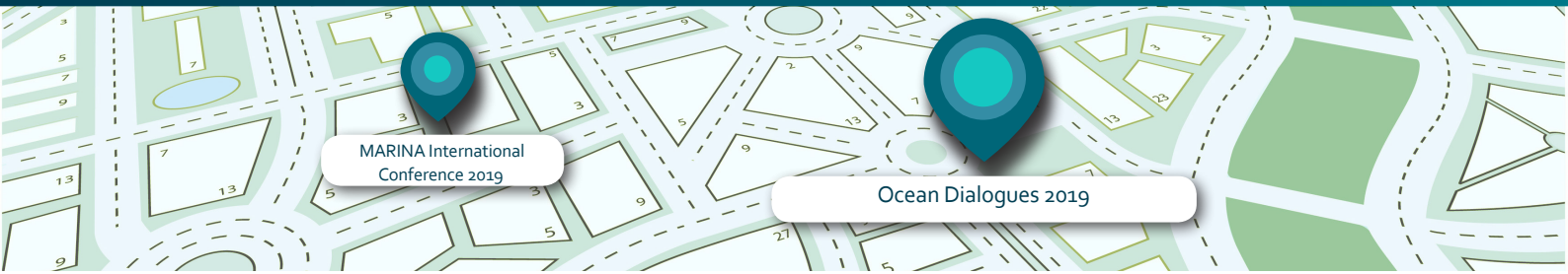
The Ocean Dialogues Manifesto for building an effective Ocean Knowledge System

by Francesca Ronchi, ISPRA

Despite efforts from the local to the global scale, the oceans are still under severe pressure. Human activities affect on marine ecosystems with the emergence of new sectors that will drive marine research and innovation agenda, as well as future marine policies marine research and innovation agenda, as well as future marine policies. In addition, **climate change** will modify the sea, requiring even more urgently a **holistic ocean knowledge system** to support a participatory, inclusive and **predictive approach** to ocean governance.

Committed to this idea, the MARINA project worked intensively during the last three years towards supporting **social engagements, open access and equality** in the marine research and innovation context,, contributing to identify roadmaps and opportunities for their **institutionalization** into the policy agenda. At the end of its journey, the MARINA consortium poured the knowledge, experience and outcomes produced so far into the **2019** Ocean Dialogues, a three-days event

The Manifesto for building an effective Ocean Knowledge System.
A compass for policymakers and practitioners from the 2019 Ocean Dialogues

organized with the project ResponSEAble in cooperation with the **SEARICA** European Parliament intergroup and **IOC-UNESCO**.

The event, held in Brussels from 18th to 20th March 2019, had the ambition to produce new outcomes and build project legacy through participatory workshops, discussion panels, round tables and an interactive demonstration place for tools and products developed by the two projects. Some two hundred relevant representatives from DGs (RTD, MARE, ENV), international and European organizations and initiatives such as IOC-UNESCO, JPI OCEANS, EMB, regional sea conventions (HELCOM), associations (EMSEA), business companies, NGOs, science centres, scientists, politicians and young professionals attended the event, committing themselves in sharing ideas and experiences.

A "*Manifesto for building an effective Ocean Knowledge System*" was presented in its draft version during a specific workshop organized at the European Parliament with the SEARICA European Parliament intergroup. Stemming from the findings of the two projects and enriched with the imputs of the Ocean Dialogues, the Manifesto stresses the importance of **public engagement, co-creation, open access, accountability and responsibility** to support ocean governance to cover all aspects of the human-ocean connections.

"Responsible Research and Innovation is about helping scientists understand their role in society and society understand how research works," said **Linden Farrer**, policy officer at DG RTD, during the opening of the 2019 Ocean Dialogues. "This leads to better research and more acceptable, useful and economically successful innovation outcomes".

Taking on board this idea and the final statements from the Manifesto, let's remind ourselves to **keep the attention to the ocean** but also to put our heads out of the ocean, recognising the importance of the Youth and Young professionals contribute to ocean governance. ■

JOIN US

Manifesto for building an effective Ocean Knowledge System

The role of Responsible Research and Innovation (RRI) and Ocean Literacy (OL)

#oceandialogues2019

Beyond MARINA, more MARINA. Exploiting what we gained!

by Nagore Ibarra-González, Mato Knez, CIC NanoGune and Francesco Niglia, KoysLab

The ocean is a great source of health, well-being and economic wealth. Very important economic sectors are directly linked to it – food, transport, tourism, gas and oil. The scarcity of water and strategic minerals are also sprouting new industrial sectors rooted in the ocean, such as desalination industries, ocean energy and deep sea mining. However, **the overexploitation of its resources and its indiscriminate destruction and contamination is putting the ocean into serious danger**. Not surprisingly, this is backfiring on us. So, the way we relate to the ocean and exploit its resources needs to be rethought. Owing to its complexity, such paradigm shift may require to be designed and articulated by all affecting and affected actors (i.e. stakeholders) through plausible Responsible Research and Innovation (RRI) practices. The mission of the H2020-project MARINA emerged from the confluence of these two ideas, i.e. resolving societal challenges related to the ocean following the RRI principle, with the goal of putting them into practice.

During these 3 years materialising our mission**, MARINA has obtained results related to the strategic implementation of the RRI approach**, it has gathered ideas and knowledge to face the ocean challenges and develop new policies, and it has created an online Knowledge Sharing Platform (KSP) to federate a community of RRI and ocean practicioners. **The utilisation of these outcomes beyond the project framework is the** **exploitation pillar of MARINA**. Relevant exploitation achievements so far have been the award of new projects (e.g. AQUA-LIT project funded by EASME), the acquisition of the KSP tool by the Cultural Heritage Community, and the grant of funds for the organisation of a participatory workshop at EU level on plastics and microplastics in the ocean. Our last exploitation stop as MARINA partners was in Brussels on 25th of March**, 2019 Our focus here is on "Aquaculture 4.0"**, an industry born from the implementation of revolutionary IT digital solutions to aquaculture to improve fish health status, food quality and traceability, environmental safety, wild fish population preservation and economy. Nevertheless, this innovative approach glimpses a complex scenario that requires cooperation between the two sectors and rest of stakeholders. The MARINA project provided tools and support to ignite the co-construction of ideas to bridge the industry 4.0 and this very important food industry responsibly.

Beyond MARINA, the Consortium partners will keep exploring all internal and external opportunities and synergies for exploitation. Our goal is impacting positively on future research, industrial activities and policies oriented towards levering societal demands with the care for our ocean. Moreover, our "hands-on" experience on RRI will naturally permeate all our coming professional activities in diverse sectors all across Europe. ■

"Enhancing ethics and economics in aquaculture"
Last MARINA workshop held in Brussels (link)

MARINA results for the RRI Community

Marine Knowledge Sharing Platform for Federating Responsible Research and Innovation Communities. The MARINA Platform

by Patrizia Grifoni and Fernando Ferri, CNR

The wide use of the Internet to deliver information, to build and share knowledge, to provide and to use services, is deeply changing innovation process of culture, business processes, products, and society.

The Marine Knowledge Sharing Platform for Federating Responsible Research and Innovation Communities, i.e. **MARINA Platform is the place where researchers, business actors, citizens and policy-makers can interact with each other**, discussing innovative and responsible approaches, actions and researches, facing marine and societal challenges. It is the **virtual place which federates different communities discussing of marine issues,** considering the potential impacts and aiming to anticipate and assess implications and societal expectations and to foster the design of inclusive and sustainable research and innovation.

The MARINA Platform is conceived as a socio-technical system, a system which combines the use of powerful information and communication technologies with effective involvement of people[1].

Anyone can see what is being said in the MARINA community, can join the MARINA community contributing to the discussion, sharing events and knowledge, can follow one or more of the communities federated in MARINA. A new community can be federated, aiming to exchange and spread experiences and contents while building new knowledge through a snowball approach.

More than 1000 members are already contributing to the MARINA platform and **seven communities** are now federated.

The MARINA Platform has been configured within the activities of the MARINA project, which organized and implemented many activities for building the MARINA community and federating other existing communities interested in establishing a new mindset, including the concept of Responsible Research and Innovation and addressing marine challenges.

The federated communities have been engaged in a process of information, consultation and collaboration for building a common knowledge and supporting a process of discussion, improving the collective awareness on research and innovation perspectives, anticipating their potential consequences and expectancies by the societal point of view.

The **process of engagement** started during the MARINA project life. In particular, 45 Mobilization and Mutual Learning (MML) workshops were organized all around Europe, inviting people to familiarize with and adapt Responsible Research and Innovation (RRI) in the marine sector.

The MARINA platform supports organizers in managing the Mobilization and Mutual Learning events in all phases: 1) inviting participants on line; 2) sharing new ideas and opinions with posts and chat comments; 3) sharing the agenda, presentations and the event discussion in streaming; 4) organizing on-line survey that the participant at the event can fill in; 5) sharing pictures, videos, and documents that summarise the results of each event. Results of the workshops are available in the Events section on the Platform. All members of the federated communities can visualize and contribute to discussion of these results.

Starting from the experiences of the MML workshops, **Lessons Learned have been extracted**, classified and shared according to the RRI dimensions and the marine issues, as well as in terms of motivations of stakeholders participation, the stakeholders groups engaged, and so on. Lessons Learned from MARINA MMLs as well as from other experiences are collected and available using the "Lessons learned functionality".

---

1 Coakes, J., Coakes, E. "Sociotechnical Concepts applied to Information Systems", Management Information Systems, Vol. 7 of the Blackwell Encyclopedia of Management, pp. 281-286, 2005.)

All members of the federated communities can organize **co-working and online discussions groups**. These groups can be public or private, on specific topics and with specific purpose using the "Working space function".

Information coming from past and existing projects related to the marine issues and Responsible Research and Innovation can be uploaded by the members of the federated communities and shared in the **Database of Projects**. It is also possible to share documents such as scientific papers, policy briefs, strategic documents, deliverables produced by projects, etc. that are organized in **Collections** contained in the **on line Libraries**.

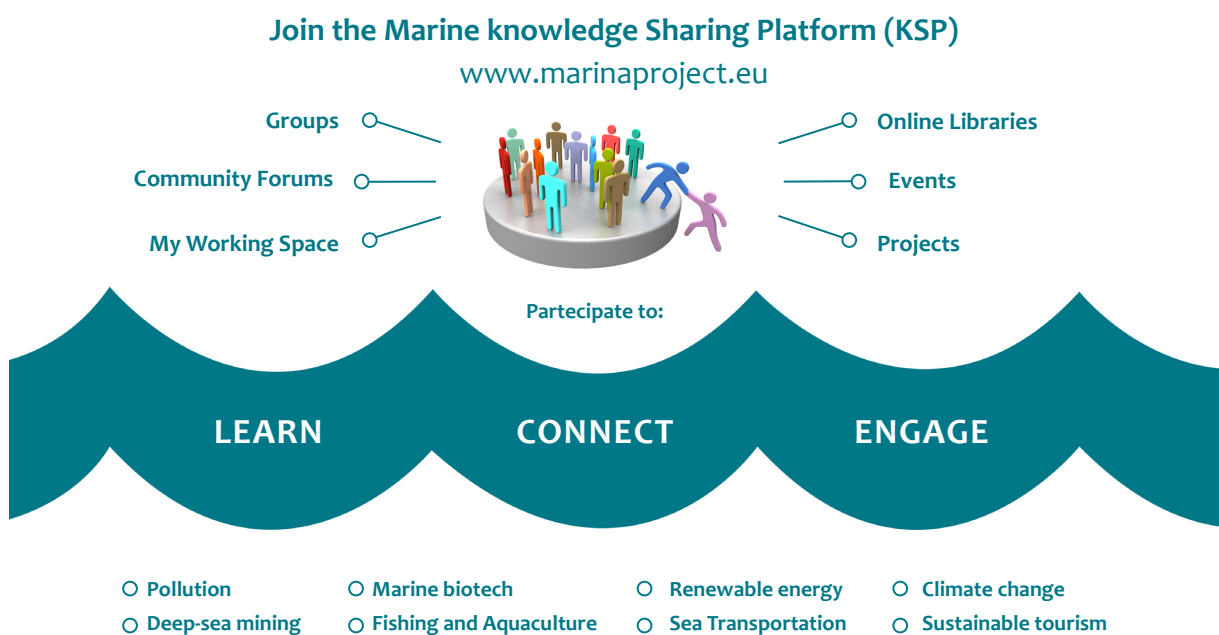Each community member can include stakeholders information in a **Repository**, aiming to facilitate their engagement and participation in common activities.

Moreover, the MARINA platform is also a **hub of additional on line resources on Responsible Research and Innovation and Marine issues**, such as databases, libraries, best practices, and in general other tools that each community can re-use directly by other communities.

The process of engaging communities is continuing enlarging the sharing process including other projects, local communities, scientists, businesses actors, citizens and policy-makers, as the MARINA Platform is going to be maintained active for at least five years, after the end of the project. ■

JOIN US

DO NOT HESITATE, JOIN THE MARINA COMMUNITY, SHARE THE KNOWLEDGE!

www.marinaproject.eu

HOW CAN CITIZENS, ENTREPRENEURS, POLICY MAKERS PARTICIPATE IN SCIENCE AND INNOVATION TO SOLVE MARINE CHALLENGES?

Join the Marine knowledge Sharing Platform (KSP)

www.marinaproject.eu

Groups	Online Libraries
Community Forums	Events
My Working Space	Projects

Partecipate to:

LEARN   **CONNECT**   **ENGAGE**

○ **Pollution**   ○ **Marine biotech**   ○ **Renewable energy**   ○ **Climate change**
○ **Deep-sea mining**   ○ **Fishing and Aquaculture**   ○ **Sea Transportation**   ○ **Sustainable tourism**

The RRI Roadmap is released!

By Xenia Theodotou Schneider, XPRO Consulting Limited

The Responsible Research and Innovation Roadmap "RRI Roadmap" has been released! The RRI Roadmap aims at assisting any research and innovation project or initiative, and any institution or company to develop innovations and achieve results that have useful impacts to the society and to the environment.
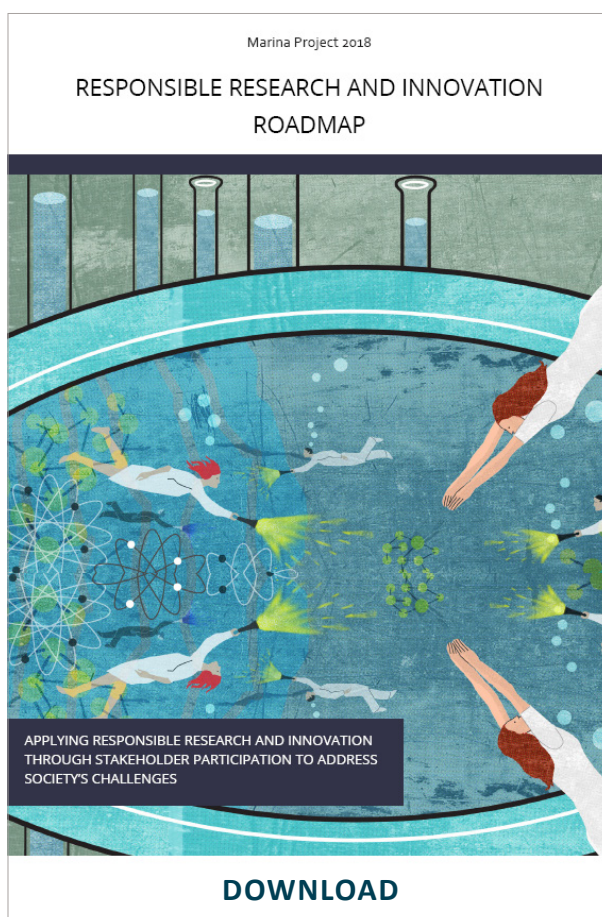
As already mentioned in previous issues of MARINAzine, RRI is becoming an important cross-cutting priority for European research and innovation calls and it includes diverse sectors like agriculture, blue growth, bio-economy, food sector, resource efficiency, raw materials. RRI promotes responsible, socially inclusive and environmentally sustainable growth by carefully taking into consideration science, public engagement and ethics.

Why use the RRI Roadmap?

Responsible growth is about creating radical or incremental innovations and economic development, but in a socially and environmentally sustainable manner. RRI promotes engaging with other societal actors to understand an issue from different perspectives and to execute research-work and achieve innovations that are all-inclusive. The MARINA project has shown that societal actor engagement improves understanding, relationships, acceptance for change and improves trust among stakeholders. Another MARINA conclusion is that **most people do not understand the RRI dimensions as such, even though they may have used them in their actions**.

The RRI Roadmap gives you a fast overview and a step-by-step approach of how to:

1. **Achieve pragmatic goals,** create good relationships and build trust with your immediate stakeholders and wider end-users of your research results and innovations;

Marina Project 2018

RESPONSIBLE RESEARCH AND INNOVATION ROADMAP

APPLYING RESPONSIBLE RESEARCH AND INNOVATION THROUGH STAKEHOLDER PARTICIPATION TO ADDRESS SOCIETY'S CHALLENGES

DOWNLOAD

2. **Help you make better decisions,** share and mobilise knowledge to increase the impact of your work and to ease the uptake of your research work and innovation results;

3. **Create new opportunities** through a common vision and co-defined action plan, because when stakeholders are involved in definitions and decisions, they "take ownership" of the results and they push further for their acceptance. Thus, they will ease your work at the end.

How to use the RRI Roadmap?

The RRI Roadmap has boiled-down all the conclusions from the MARINA project, other relevant EU projects' experiences, change management and modern

project management approaches and design-thinking concepts into **eight clearly defined milestones** with actions. Each milestone relates to two or more RRI dimensions.
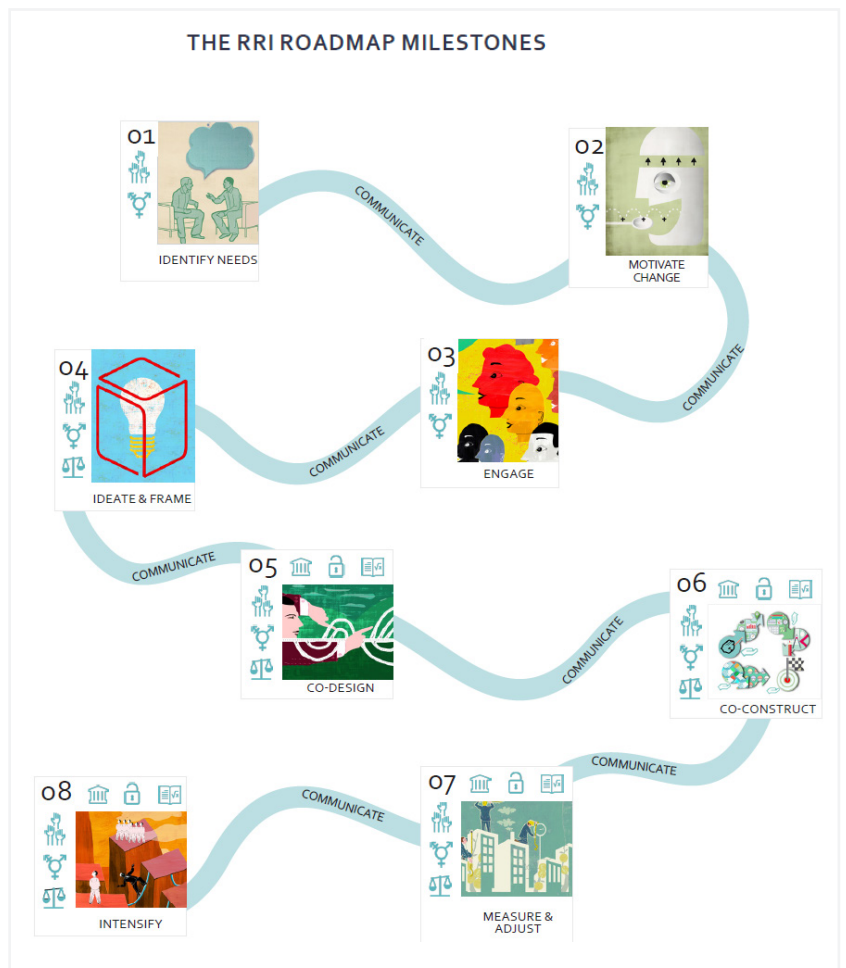
Be one of the first to apply the RRI Roadmap!

In parallel, we have been working to extract **practical lessons learned** from the many MARINA mobilisation and mutual learning workshops in order to make the RRI Roadmap even more practical and operational.

The partners ISPRA, World Ocean Network, Mare Nostrum under the leadership of XPRO Consulting have been closely working to distil the extracted knowledge, classify it and generalise it, so that **each step of the RRI Roadmap has some good examples and things-to-avoid examples**. All lessons learned and good practices can be consulted in the MARINA Knowledge Sharing Platform and in the MARINApedia. ◼
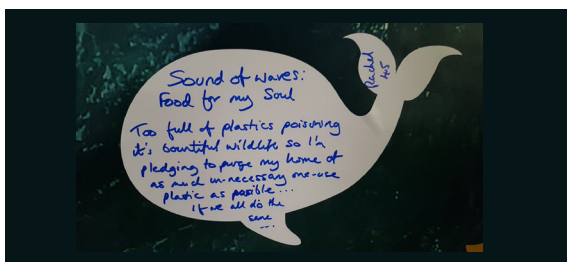

THE RRI ROADMAP HELPS YOU ACHIEVE:

- Responsible growth
- Building trust
- Mobilising Knowledge
- New opportunities
- Common vision
- Common action plan
- Common Implementation
- New opportunities

©RRI Roadmap, MARINA Project

THE RRI ROADMAP MILESTONES

01 IDENTIFY NEEDS
02 MOTIVATE CHANGE
03 ENGAGE
04 IDEATE & FRAME
05 CO-DESIGN
06 CO-CONSTRUCT
07 MEASURE & ADJUST
08 INTENSIFY

COMMUNICATE

©RRI Roadmap, MARINA Project

MARINA Exhibition "Let's talk about the Ocean"

by Elisa Atger, RON WON

Last December, the MARINA project took part in the Comm'Ocean Conference in Southampton, UK. The Conference hosted the launch of the new participatory exhibition "Let's talk about the Ocean" developed by the World Ocean Network as part of the MARINA project.

"Let's talk about the Ocean" is designed to raise awareness on key Ocean issues in a format that is light, easy-to-run and can be displayed in streets, museum hallways or conference venues. In a dynamic and punchy way, the participatory aspect of the MARINA Exhibition shows that the Ocean is important for humankind and raises strong opinions. Everyone has something to share with the Ocean.

As part of the MARINA Exhibition, passers-by are asked a single question about their beliefs and personal relationship to the ocean. A facilitator and facts-and-figures board are present to help people express their ideas and feelings, write them down and pin them up on the wall.

When displayed in Southampton, the question was "The Ocean, what's the use?" The public showed a great level of 'ocean literacy'. Besides the basic scientific uses of the Ocean such as the production of oxygen and regulation of climate, most answers focused on what is sometimes called the "blue-gym effect". The Ocean brings us well-being, leisure and a sense of calm. One participant shared the strong cultural link her community has with the Ocean through folklore stories and local deities.

(To discover more results from Southampton, see the World Ocean Network Twitter thread)

MARINA Exhibition stopped at:

- MARINA Final scientific conference in Boulogne-sur-Mer 12 - 13 March 2019
- MARINA joint policy event with ResponSEAble project: Ocean Dialogues, in Brussels, 18 - 19 March 2019. ◼

Should you want to host this exhibition to engage with your audience?
Don't hesitate to contact the World Ocean Network Team: info@worldoceannetwork.org

MARINApedia

by Andreas P. Andreou, CNTI and Tiago Gacia, Eurocean

As researchers, stakeholders, and concerned individuals we often find ourselves struggling to find reliable up to date sources of information. Responsible Research & Innovation (RRI) aims at building a society where everyone has access to quality information before getting involved in important decisions. MARINA created a hub online to bring together a detailed yet concise pile of information about what is RRI and how it can be implemented into a specific scientific field like marine sciences.

The **MARINApedia is an online information repository developed as complementary tool of the MARINA Knowledge Sharing Platform**. It focuses on marine hot topics and was designed following the format of Wikipedia. The MARINApedia comprises **nine distinctive portals** which aim to provide a comprehensive overview of the multidimensional aspects concerning RRI. While the **RRI Keys & Indicators Portal** explains in lay language the six RRI dimensions, the **Marine Sectors Portal identifies** critical marine areas where RRI could be of the utmost importance. The **RRI Projects Portal** provides access to a list of 40 + European (co)funded projects directly or indirectly associated with the overall approach of RRI.

Another substantial element of the MARINApedia relates to the demonstration of **500+ Lessons Learned** derived from the execution of 45 Local and International Mutual & Mobilisation Workshops organized by the project between 2016 and 2018. These Lessons Leaned are not limited to the marine field. Instead, they are applicable to any research sector as they provide simple recommendations on how; for example, a participatory workshop can serve to achieve a common vision about a divisive issue.

In order to raise awareness among the internet users about the importance of preserving and respecting the marine environment along with creating an online hub for researchers and business representatives interested in reading the most recent updates on topics related to the ocean and the renewable energy sector, to mention some, the **MARINApedia contributes to raise awareness on marine problems by being daily fed by six credible on line news sites**, namely Oceans Deeply, ScienceDaily, renews.BIZ, offshoreWIND.biz, Renewable Energy World and Subsea World News. In addition, the MARINApedia also portrays a "Today's Featured Picture" which hosts a slideshow of powerful images from the personal collection of the extreme aerial dancer Katerina Soldatou which aim at sensitizing the society about the protection of the ocean. ◼

JOIN US

Should you want to become part of the project, visit the MARINApedia on line and navigate through the different Portals before deciding to freely register and contribute.

MARINApedia

MARINA Lesson Learned

by Anca Gheorghe, Mare Nostrum NGO and Xenia Theodotou Schneider, XPRO Consulting Limited

Speaking about Lessons Learned (LL) we definitely speak about knowledge or understanding gained by experience from a project or activity that should be actively taken into account in future projects or actions. The experience can be positive or negative, but a lesson must be significant, with a real impact, valid and applicable, reducing the potential for failures, or reinforce a positive results.

In this context of lessons learned, the MARINA project is a real source of LL gained and extracted from different activities and situations. Analysis of other EU projects, Marina's own 45 Mobilisation and Mutual Learning (MML) workshops, spillover activities and national policy-makers survey are just some sources of lessons learned.

But what we actually learned? First of all, analyzing **the other EU projects**, MARINA developed recommendations about how to engage stakeholders and adapt the results, how to define an effective project process, how to overcome with the capitalization challenge and how to deal with cultural and legislation differences. Also, this projects-review gave us the confirmation that RRI dimensions were already discussed and applied in these projects, even if the concept of RRI was still in development during these projects' implementations.

Second, but the biggest "generator" of LL in the MARINA project, were **the 45 "Mobilisation and Mutual Learning" (MML) workshops organized by partners**. These MMLs

offered over 500 lessons learned related with workshop definition and execution, marine sector, marine challenge and societal challenge, RRI dimensions, but also from the perspective of stakeholders groups, motivation and level of engagement. All these LL represent the base of an RRI Roadmap, a tool for motivating, engaging, co-designing, co-constructing, adjusting and intensifying RRI in research and innovation actions.

Other lessons learned in MARINA come from **the spillover activities developed by partners through conferences they attended**, where they presented MARINA and the RRI concept with concrete examples, in order to illustrate better the concept to different stakeholders. From the spillover activities we can say that we learned to present our work on every occasion, even if the events we attend don't have allocated time for this, but we need to see the opportunities and take advantage of them.

All lessons learned identified in MARINA project have helped partners to improve their work quality and actions. The MARINA Lessons Learned are available on the MARINA Platform and on the MARINApedia. On the MARINA Platform, the interested can search and filter lessons learned using nine filters: 1) RRI dimensions; 2) Stakeholder Group; 3) Workshop Participatory Methodology; 4) Stakeholder Motivation for Participation; 5) Stakeholder Level of Engagement; 6) Workshop Definition and Execution; 7) Societal Challenge; 8) Marine Sectors and 9) RRI Roadmap Milestone.

After the end of the MARINA project, all MARINA lessons learned will be openly available. They can represent a starting point for future EU-funded projects, responsible research and innovation actions. At the end of the day, all these experiences can be used by any interested organisation and party to improve their own research and innovation processes so that they become inclusive for solving pressing problems that the society faces today. Having said this, these lessons learned are valuable for policy makers as well, because policies must be holistic in order to be effective in addressing societal issues. ■

A first MARINA policy brief to mainstream RRI in public institutions

by Elena Giusta, ISPRA

A first MARINA Policy Brief is available on the MARINA website.

This first MARINA Policy Brief summarizes the results of the survey among policy makers and policy-implementers carried out by the MARINA project partners to assess the awareness of the RRI concept and collect suggestions on how to overcome possible barriers in the full implementation of this participative and beneficial approach.

This survey for policy mobilisation on RRI implementation was realised through a web questionnaire circulated among representatives of public institutions in the eleven countries of the MARINA consortium and members of European organisations dealing with the EU policies for research and innovation and tackling societal challenges such as, for instance, healthy seas and oceans.

Also face to face interviews were performed to gain an insight into the actions recommended to improve the Science-Society-Policy interface which is essential to decide policies that duly take into account scientific research and innovation and societal demands.

In fact, policy-makers might need logic-based solutions that are the results of research, development and innovation activities in social and natural sciences and can contribute more effectively to pursue societal interests at a national or international level. But a full implementation of the RRI approach with its principles of inclusion, collaboration, participation, open dialogue and co-creation can be achieved only through ingrained norms, new organisational cultures and different role responsibilities able to overcome the present institutional barriers and bureaucratic obstacles.

As the **embedding of RRI in organizational settings requires systemic change in the programmatic activities of public organisations** in charge of tackling main societal

challenges and also in the implementation of their mission at management level, the policy brief published by the MARINA consortium highlights the necessary steps for this systemic change.

These steps for an explicit policy commitment to RRI are based on the change management process promoted by professor John Kotter of Harvard Business School and have also paved the way to the elaboration of the RRI Roadmap proposed by the MARINA project.

More detailed recommendations on the institutionalisation of the RRI approach resulted in the Ocean Dialogues Manifesto, as a major outcome from the Ocean Dialogues event held on 18-20 March 2019 in Brussels. ∎

MARINA mutual learning and mobilisation workshops

by Delphine El-Khassawneh, Nausicaà

Over the last three years, the partners of **the MARINA project organised a total of 45 Mutual Learning and Mobilisation (MMLs) workshops in Europe**.Out of these, 37 workshops addressed local and national marine hot topics in various European countries, and 8 addressed cross-border, international issues.

The purpose was to engage with all stakeholders and demonstrate how they can tackle marine and societal challenges together to bring economic and environmental sustainability through Responsible Research and Innovation. The workshops provided a forum for debating, mutual learning, sharing best practices, and co-creating solutions to current marine and societal challenges and finding opportunities.

More than 990 stakeholders took part across Europe, representing various groups with an interest in marine issues: citizens, policymakers, business representatives, researchers and academia. They addressed the following marine issues:

• Tourism and coastal cities
• Fishing and aquaculture
• Sea transportation
• Pollution caused by human, land and sea pressures
• Ocean and climate change
• Deep sea mining
• Marine biotechnologies
• Renewable energies (wind, wave, tidal).

The last four international workshops, which took place in spring 2018, highlighted the need for a stronger governance system. They focused on the future of Sea Transportation, Deep Sea Mining, and Governance of the High Seas, and participants identified the same issues. They concluded that there is a strong need in Europe to raise awareness of marine science and challenges, to strengthen and improve environmental assessments, and most importantly that innovative and sustainable solutions are possible with a stronger governance system. This would trigger and support tighter collaboration between research, policy, industry, and marine science education, as well as the effective enforcement of existing regulations and agreements and use of new technologies.

In general, **participants of all workshops encouraged political leaders and citizens alike to play active roles in the transition towards a "Blue Society",** which would ensure the sustainable management of marine resources, and fair access to its benefits to all.

More information and individual reports of each workshop are available to all on the Marina Platform. Leaflets presenting the workshop outcomes in a nutshell are also available on the MARINA Platofrm. ■
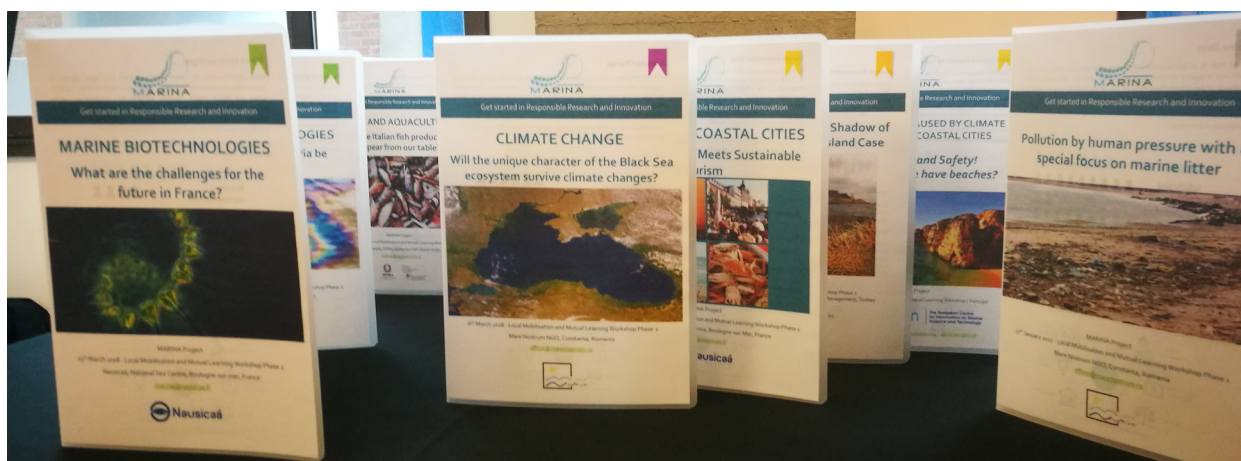
Opinions

Towards the next EU Framework Programme 2021-2027 "Horizon Europe": Data Protection, major challenge at stake

by Nina J. Zugic, MARINA Advisory Board

The latest European Commission update on the next EU Framework Programme suggests that the plan for the new **Horizon Europe** content will be the continuity of HORIZON 2020. Some new elements, such as the establishment of a European Innovation Council to promote innovation and also the introduction of mission-oriented research, will play a major role in the new programme. Needless to say, that given the new elements of the programme, the new ethics challenges will be at stake, too. Moreover, the majority of HORIZON 2020 calls will be succeeded by the **Horizon Europe** programme calls, hence for MARINA Project itself, with the current HORIZON 2020 funding coming to an end much too quickly, the prospect of finding its own place within the **Horizon Europe** looks rather promising! MARINA Project partners have already been on "a mission" from the start of the project, nearly three years ago.

It is, however, very difficult at the moment, to understand the final version of **Horizon Europe** programme for 2021 to 2027. It is also rather clear that one of the missions proposed by the European Commission will target topics already covered, either fully or to the certain extend, by MARINA Project, including the **Horizon Europe** mission-research on "**Clean Oceans**". "**Clean Oceans**", amongst other objectives, includes reduction of 90% of plastic within the marine environment, and also collection of more than half of plastics by 2025, present in our oceans, seas and coastal areas at the moment. According to the European Commission, the "**Clean Oceans**" proposed mission-oriented research objectives will include.

In other words, the Commission's proposed **Horizon**
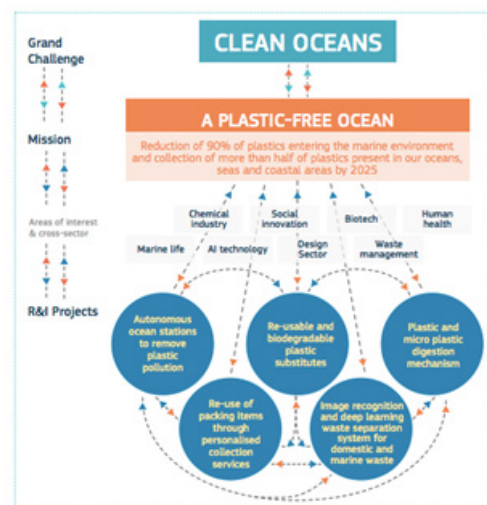
Source: European Commission

Europe programme aims to link science innovation and research to "real people", the citizens of all age, cultural and educational background, within the European Union, Widening Member States and Associated Countries. Or to be more precise, raise awareness and better understanding of science innovation and research outcomes amongst citizens at all levels. Whether, and how difficult this is going to be achieved within the Horizon Europe, it is remained to be seen.

As of the Ethics challenges at stake, the European Commission guidance on ethics and data protections published on 14th November 2018, clearly sets out that **Horizon Europe** programme, and consequently all upcoming projects under the umbrella of the programme, will be guided by ethical considerations. Thus, the quality and integrity of a research, respect the confidentiality and anonymity of the researched

respondents and seeking informed consent prior and/ or during the research activities, are the absolute paramount in the ethical outline of Horizon Europe.

Last but not least, should European Commission decide to go ahead with the proposed mission-orientated research, **the biggest challenge from the Ethics point of view, will be the Data Protection**. With a number of new areas of research looming out, starting with the Learning and Skills for the Digital Age, Learning and Skills in the 21st Century and Integrating Ethics in Higher Education via Interactive Technologies such as Augmented Reality, (AR), Virtual Reality (VR) and Artificial Intelligence (AI) to Smart Cities and Future Cities, the Data Protection is going to be the central issue, and a major challenge at stake, for the Horizon Europe research ethics. ◼
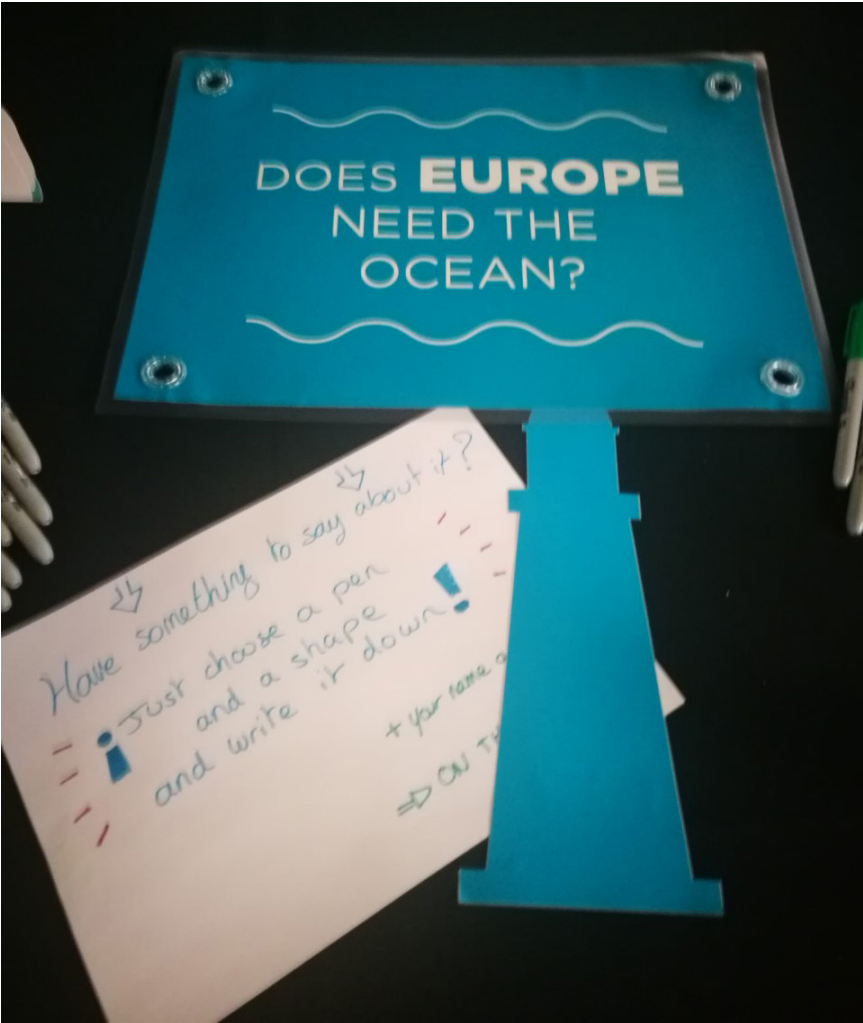
Governance as an "umbrella" concept: how to contextualize it in the framework of RRI

by Margot Bezzi, Innovation Policy Expert , APRE

In the six-pillar RRI framework created by the European Commission, one of these remains pretty conceptually blurred, at least at a first sight: we are speaking about the Governance dimension in RRI. The concept of Governance, indeed, has several definitions, and our aim now is to contextualize them in the framework of RRI.

Firstly, the concept of governance is closely related to the reflections concerning participative democracy, and it is intrinsically connected to a vision of society where decisional power is distributed across stakeholders, where the government, or better, the institutions, are just one amongst them.

Secondly, governance relates to the particular set of structural and systemic assets underpinning the functioning of any societal organization, up to the societal macro-level. We are speaking about values and principles underpinning norms, laws, and procedures, as well as about the set of cultural tacit assumptions and practices that create and legitimize our daily actions and choices, as individual and professionals, up to determining working and management styles and decisions.

What does all this mean in practice? What are we really talking about? Let's start by focusing in our area of interest: RRI. RRI calls for the active and aware embedding of a number of principles within research and innovation practices: responsibility, reflectiveness, responsiveness, adaptation; or openness, transparency, accountability, inclusiveness, collaboration, equal opportunity. The concrete realization of these principles does not coincide with their statement and listing within a research proposal; instead, it requires action at other levels.

In order to embed underpinning values into society, governance is realized through the establishment of goals, means and performance verification tools, and comprises two parallel action lines:

- providing enablers conditions and distribute assets - including knowledge and power;
- steering, by setting boundaries, confirming trajectories, restricting freedoms if necessary.

Here **some examples taken from the principles of RRI** listed above.

In order really realize **transparency**, in particular in public administration, it has been often necessary to enforce practice and cultural changes through specific laws or procedure provisions. The same goes for issues such as **gender equality** and equal opportunities, whose solution is often hampered by a general lack of awareness on how cultural frameworks and conditioning influence choices and behaviours, determining intangible and subtle discriminatory situations. An appropriate governance approach for gender issues, concerns the way research organisations promote equal opportunities career through, for example, incentives, or specific selection procedure at the HR level, where the equality principle is taken into account in some way.

For what concerns the European Commission's call for **open science**, open innovation, and collaborative methods, in order to be properly realized, it requires multi-level interventions at different moments of

the R&I value chain. First of all it requires a different approach towards one's own results and the added value produced by knowledge and information; in particular, it requires a shifting in terms of value perception, from an attitude based on competitivity and protection, towards collaboration, co-creation, and the acknowledgment that a higher value is generated by sharing and collective intelligence.

This mentality shift concerns norms, procedure and law adaptation (and the other way around). We need to create diverse and alternative ways to recognise and protect intellectual property aspects in open innovation processes; research and innovation organisations need to adapt their support system through creating processes, repository and tools enabling people to effectively share and store knowledge and data, but also to meaningfully manage and use the complexity deriving from collective intelligence and open processes; also, such a transition requires new competences – e.g. data management, or facilitation skills for multistakeholder dialogues – and specific budget lines might need to be considered for this. Finally, at the level of research methodology, this means conceiving the whole process as iterative, inclusive, based on co-creation and stakeholder engagement,

under the assumption that different types of knowledge – in addition to the scientific one – are important to solve complex challenges.

A final example regards the realization of the RRI principles of **adaptation, responsiveness and reflectiveness** in research and innovation practices. These principles can be realized only within a cultural or procedural framework where we are able and ready to reconsider and put into questions our initial assumptions, without fearing to be judged as not enough competent, or simply wrong. A research organization, for example, could foster these principles by highlighting the importance and added value of multidisciplinary research, and by setting up operative processes able to support its concrete realization. Also, the fostering of research methods based on iterative testing is important, because it reinforces the enabling conditions for a real adaptive and responsive attitude.

Governance is an umbrella concept, which comprises and concerns all other aspects of the EC RRI framework, and which tackles the issue at a higher, cultural and systemic level, to stress the point that substantial change is realized only when actual mentality and operational changes are put in place, at all governance levels. ■
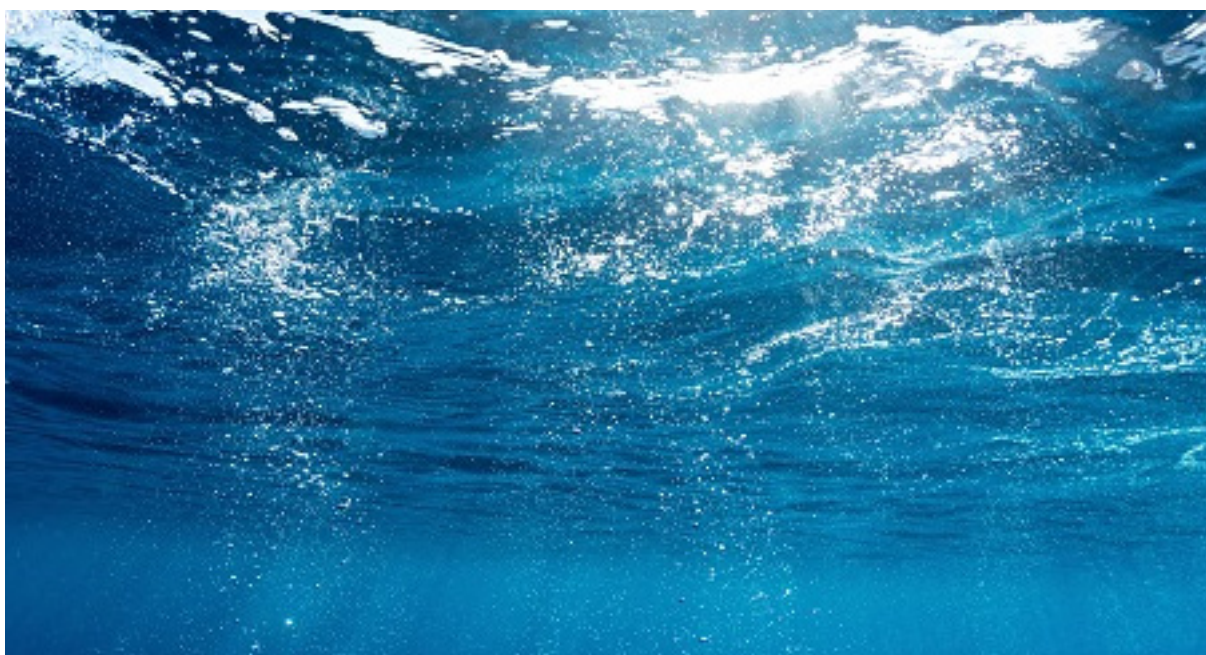
RRI Stories

Welcome to the Horizon 2020 Gym for Responsible Research and Innovation: highlights for Communication teams

by Chiara Buongiovanni, Communication officer APRE – MARINA

What is the purpose of "Communication and Dissemination" in a Horizon 2020 SWaFS project? Below the surface, this is indeed quite a timely "working question", precisely now that the RRI community is moving fast towards the new Horizon Europe, where apparently Responsible Research and Innovation will be an embedded requirement for the entire Framework Programme. Here **my Comms top 10 as learnt through** the MARINA experience (plus a very basic basic one, I call the "SWaFS Premise").

To me, quite a **peculiar approach is needed when working in a "Science with and for Society" project.** Staying true all the basics of the Horizon 2020 Communication strategy - i.e. Ensure good management; Define your objectives; Pick your audience; Choose your message; Use right medium and means, Evaluate your efforts (as from the H2020 Guide Comm) - **few specific highlights** could be remarked when working with the SWaFS Comms.

1) Engaging Communication is something different from Public Engagement

Engaging communication in SWafS is key. It is not less important than public engagement, yet it should be made clear that is something different in scope, objectives and professional background to be involved. Strongly oriented to build community, it is likely to open the door to public engagement while boosting community building.

2) Sustainable Community Building beyond your project life cycle should be «the horizon»

The RRI awareness raising as well as the growing of the RRI community is something you share with many projects. Instead of competing with them, find ways to build a shared legitimacy to make the most out of the

---

THE SWAFS PREMISE
SWaFS Programme is the Horizon 2020 (and beyond) Gym for Responsible Research and Innovation

Starting from the start: "The 'Science with and for Society' (SWaFS) programme is instrumental in addressing the European societal challenges tackled by Horizon 2020, building capacities and developing innovative ways of connecting science to society. It allows all societal actors to work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of European society" (source: www.ec.europa.eu)

Said in other words, the work we do in SWaFS should be exploited in the entire Framework Programme, as **we get trained in Responsible Research and Innovation for the benefit of the entire R&I community. (CB)**

common effort. With such a view, **a RRI Social Hub was created together with Communication officers of several RRI oriented projects under H2020**, under the coordination of New HoRRIzon Project.

From January 2019 we share in fact the management of the EU RRI social channels. Follow them here: Responsible Research and Innovation [Facebook](#) Twitter [@RRI_eu](#) Responsible Research and Innovation [Linkedin Group](#)

3) Connect to not - SWaFS projects

Building bridges through communication and design an "out- of -the box" dissemination strategy could pave the way to exploitation, responding to the very nature of SWaFS Programme, as explicitly recalled above.

4) Be strategically social

Provided that working on community building, social media is probably one of the answers, take some time to properly define the question. Social media strategy should be indeed the chauffeur, bringing your project – through the designed communication activities – *there*, where you really want it to get.

5) Be rigourous, Be professional. Work for a strong comms coordination within your Project.

Communication always calls for professionalism. Aiming at engaging through Communication does not mean "everyone should be entitled to design and perform its own communication activities on behalf of the Consortium". A strong coordination among partners needs to be in place.

6) «Boost» other WPs work, tandem with each Task Coordinator

Take some time to design and clarify internal communication processes and tools. Leverage and coordinate those partners showing a prominent willing and attitude to more actively join the Comms effort.
(Ps: WP stands for Working Package!)

7) Do not forget Dissemination.

Scientific community is waiting for your results and needs them to be accessible. Do not underestimate the effort and the proper timing of the dissemination process.

**8) Do not forget the Grant Agreement.**

Description of Activities does exist and budget is connected to it. Consider it when planning, implementing, reporting your communication and dissemination activities.

9) Periodically align Comms objectives with your Project objectives.

Comms objectives support the project as a whole as well as specific WPs objectives, yet they do not coincide with them. Comms objectives are connected to the communication process. The communication process has its own timing and rules, consider it when setting specific Comms objectives and plan activities accordingly.

10) Be «your project» fishing hook out there.

Public Relations are "gold", so put the needed effort to build them through your project communication integrated "media mix". However, please, consider that they cost time. Plan and report them accordingly. ◼
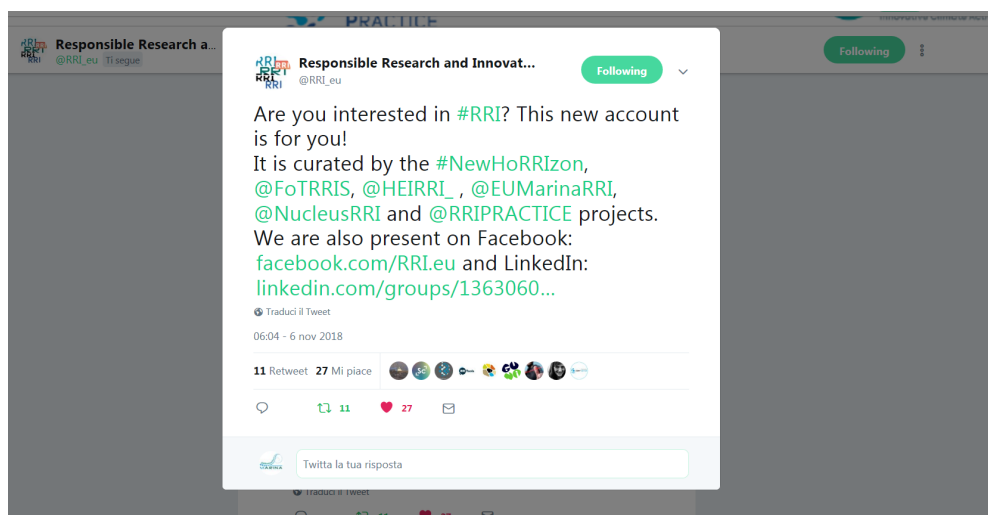
Voices from stakeholders

Responsible Research and Innovation in the Turkish National Marine Monitoring Programme

An interview with Hacer Selamoğlu Çağlayan on her engagement at MARINA workshop in Istanbul

by Husne Altiok, Istanbul University

Evagoras Isaias

Hacer Selamoğlu Çağlayan has graduated from Chemistry Department in Faculty of Science in Middle East Technical University. She has been working in Ministry of Environment and Urbanization for 12 years as an environmental expert. Her main activities and responsibilities are assist to coordinate national marine observation and monitoring.

Q. Can you briefly introduce yourself? Which is your main topic of interest?
I am Hacer Selamoğlu Çağlayan, I have been working in the Ministry of Environment and Urbanization, in the department coordinating the National Marine Monitoring Programme since 2012.

Q. Why do you think the RRI perspective is important in there?
Responsible Research and Innovation approach has been already partly and practically implemented throughout in National Marine Monitoring Programme in means of enabling easier access to scientific monitoring results for public, holding workshops in which information is shared with the actors benefiting the coasts and marine regions, holding conferences to bring up scientific committee, governmental bodies and NGOs, RRI perspective would lead consciousness raising in marine environment use and conservation through sharing scientific knowledge, public life practices of the multi actors of the marines.

Q. Since the MARINA workshop has taken place, which emerging issues and stakeholders would you point at as the key ones in relation to the discussed hot topic?
Governmental representation bodies responsible for fisheries, marine and coastal conservation did not attend the workshop. Apart from that, stakeholders were relevant. Marine pollution, destruction of corals due to pollution and ghost nests were hot topics.

Q. According to your experience, to what extent have the MARINA workshop and its knowledge products been successful in strengthening the linkage between policy, RRI and citizen awareness?
I think the workshop was a good example to strengthen the linkage between multi actors of the marine with regard to share information, to be acquaint with the local marine problems and policy for all sides.

Q. Has the exchanges with other stakeholders you had at the workshop somehow produced an impact on your organization activities?
It showed that the local people are at a good level of consciousness to protect and to observe the source of the problem or pollution.

Q. ..did you enjoy the MARINA workshop?
Yes, get involved in such a multi-actor attended workshop was a good experience. In fact, all the actors has something to say each other and this can help in exchanging the relevant information as well as the managing perspective for both policymakers and researchers. ◼

A postcard from MARINA

MARINA SPILLOVER EVENTS

Spillover means to reach beyond and to influence a much larger area than usually intended. In the context of the MARINA project, the aim of Spillover was to facilitate the spillover of RRI in regions of Europe that are currently lagging behind, in order to reach and influence new target groups of stakeholders and made them interested in the Responsible Research and Innovation in marine societal challenges.

MARINA partners were involved in over 60 spillover events in Europe and even outside it, depending on their expertise and regions, at European conferences and also were organized events as for example at the Aquarium of San Sebastian in Spain. MARINA Partners actively participated and took lead

in specific spillover events, aiming at inspiring actions to adopt RRI in organisational activities, research activities and innovation activities, as well as to communicate spillover good practices.

The Spillover events generated awareness and interest in diverse audiences, made up of all the stakeholders concerned with marine issues and beyond. Spillover events gave good opportunity to present MARINA activities and results, but also to raise RRI awareness, using concrete examples/games/alternative tools to illustrate better the RRI dimensions and the importance of stakeholder engagement in research and innovation.

Well done, MARINA team!

www.marinaproject.eu

Consiglio Nazionale delle Ricerche

Consortium partners

ISPRA
Istituto Superiore per la Protezione
e la Ricerca Ambientale

PRO CONSULTING

world ocean
network

are ostrum

Science Centre
AHHAA

SMARTBAY
IRELAND

APRE
Agenzia per la Promozione
della Ricerca Europea

T.C. İSTANBUL ÜNİVERSİTESİ
1453

Nausicaá
La Mer est sur Terre
Centre national de la Mer-Boulogne/Mer-France

CIC
nanoGUNE
nanoscience cooperative research center

CNTI

AD NYE VEJE
AALBORG UNIVERSITET

eur@cean

www.marinaproject.eu

f 🐦 in