Webinar: NextGenProteins RRI Framework

Webinar

12th March 2020

Agenda

- **Introduction to the Webinar**

- **Presenting the NextGenProteins RRI Framework**

- **Thinking Tool Demo**

- **Brainstorming:** *RRI and my WP*

- **Comments & Discussion**

- **Conclusion**

Responsible Research and Innovation (RRI) Framework NextGenProteins

RRI framework

1. Grand/Societal challenges related to alternative proteins

2. Conceptual RRI matrix and tools

3. The practical process, actions and interactions of the RRI framework

The RRI process

1. RRI is a part of the research process

2. Co-creative process between the project actors and societal stakeholders

3. Develop and ensure high quality R&I process & outcomes, which will be societally desirable and environmentally sustainable.

Why RRI?

- Science and technology have increased the quality of life, but they have also created unintended consequences, such as Climate Change.

- Science has created controversial solutions: GMO's, Nuclear Energy, Algorithms, Self-driving Cars.

- Need for new responsibility frameworks.

The Aims of RRI

- Align scientific knowledge production with broader societal needs and expectations.

- Ensure the mutual responsiveness of social actors and innovators through a transparent and interactive process.

- Increase the societal relevance, acceptability and desirability of research and innovation outcomes.

Grand Challenges, Societal Issues and Ethical dilemmas

- **Food and population**: Responsibility for current and future generations.

- **Food and climate change**: The global food production is contributing to the acceleration of climate change.

- **Food and natural resources**: We are over-using our natural resources on land and in the sea.

- **Food and global health**: The high living standards in developed countries have come with a price: obesity.

Food Ethics Matrix

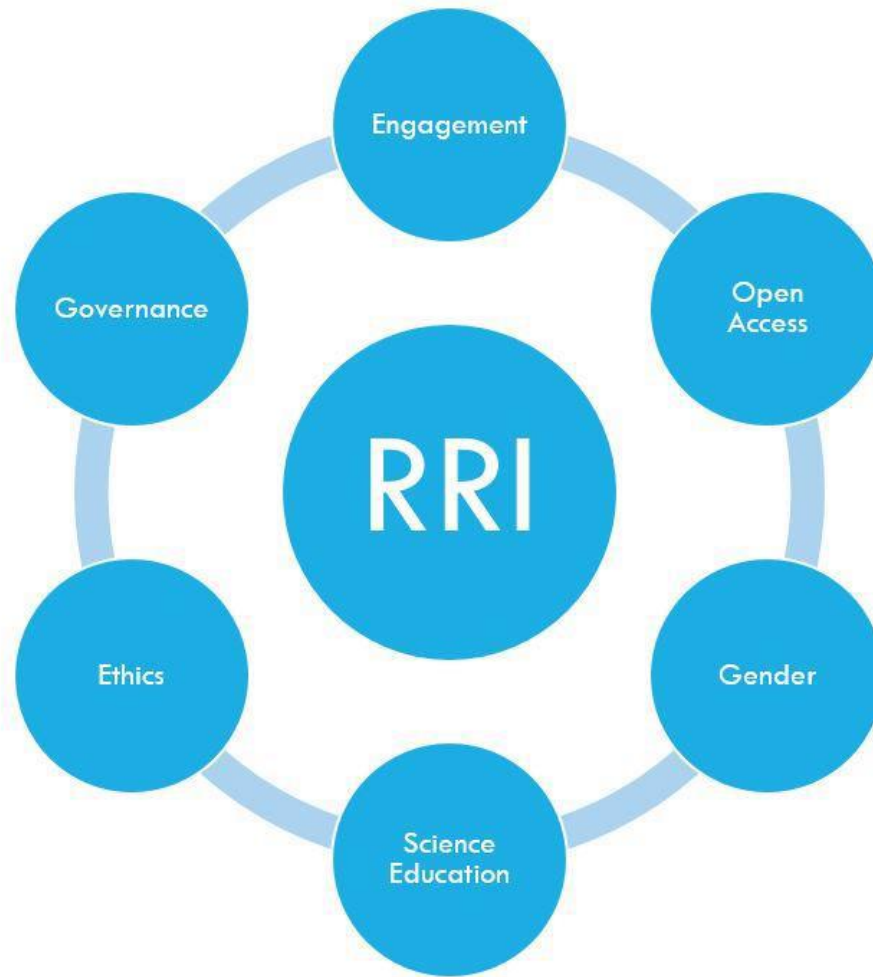| Respect for	WELLBEING (Health & Welfare)	AUTONOMY (Freedom & Choice)	JUSTICE (Fairness)
PEOPLE IN THE FOOD INDUSTRY	Income and working conditions	Freedom of action	Fair trade laws & practice
CITIZENS	Food safety & quality of life	Democratic informed choice	Availability of affordable food
FARM ANIMALS	Animal welfare	Behavioural freedom	Intrinsic value
THE LIVING ENVIRONMENT	Conservation	Maintenance of biodiversity	Sustainability

Food Ethics Matrix by Ben Mepham
https://www.foodethicscouncil.org/resource/the-ethical-matrix/

Food Systems Perspective

Food Systems diagram
https://www.nourishlife.org/pdf/Nourish_Food_System_Map_18x24.pdf

EU RRI Keys: the core ingredients of responsibility

The R&D&I process should:

*"**Anticipate** intended and potentially unintended future impacts of their innovations, **reflect** on the purposes, motivation and potential impact of their innovations, **deliberate** with multiple stakeholders about norms and future trajectories of their innovations, and finally **respond** to societal needs through participatory and anticipatory governance."*
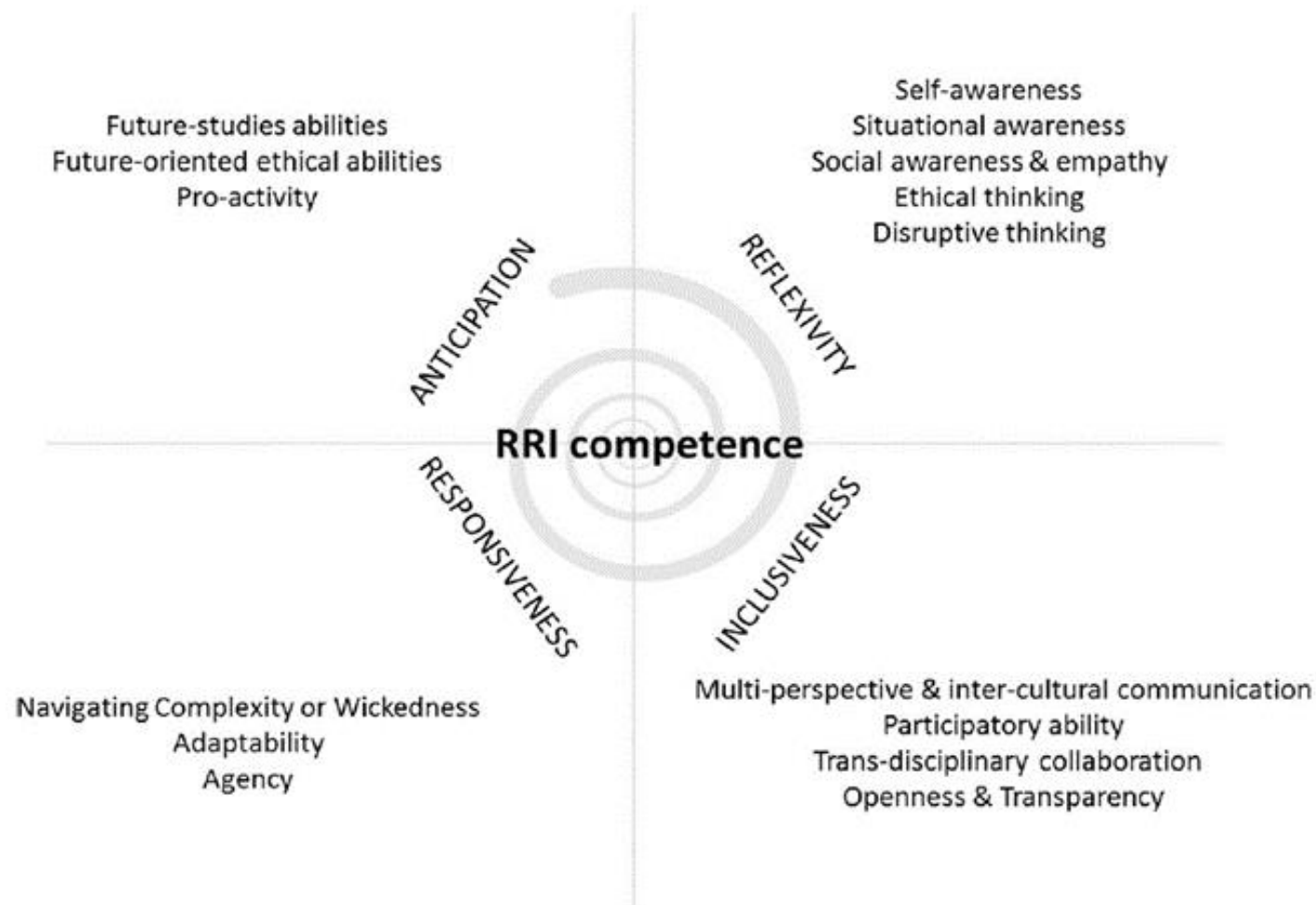
Bruijnis, M.R.N., Blok, V., Stassen, E.N. *et al.* Moral "Lock-In" in Responsible Innovation: The Ethical and Social Aspects of Killing Day-Old Chicks and Its Alternatives. *J Agric Environ Ethics* **28,** 939–960 (2015).

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Dimensions ➡ / Components ⬇	Process: How could you approach it differently?	Product: What are you working on?	Purpose: Why are you working on it?	People: Who might be affected in the future?
Anticipate & Analyze Opportunities **Tools & Techniques:** Foresight Horizon Scanning Scenarios	Is the planned research methodology acceptable? How do we know we are right? **Project Challenges** Paradigms Assumptions Theories Methodology	Will the products be socially desirable? What impacts can we anticipate? **Project Challenges** Ethical issues Regulation Product properties Animal welfare Food & Feed safety Property rights	Why should this research be undertaken? What are the challenges and goals addressed? **Project Challenges** Protein challenge Malnutrition Sustainability Climate change Business impact	Who matters? Who might care? How are the stakeholders affected? **Project Challenges** Open access Transparency Acceptance & desirability Variety of people & views
Reflect & Reason Considerations **Tools & Techniques:** Ethical Assessment Multidisciplinary Collaboration Codes of Conduct	How should risks and benefits be measured? How should standards be drawn up and applied? **Project Practices** Data security Gender balance Risk assessment Fair trade laws and practices	How will the risks and benefits be distributed? How might the risks and benefits change over time? **Project Practices** Welfare of people and animals Conservation Food & Feed quality	Are these motivations transparent and in the public interest? How could the challenges and goals of the research change? **Project Practices** Maintenance of biodiversity Availability of affordable food Intrinsic value of people and animals Quality of life	Have we included the right stakeholders? Who else could be included? **Project Practices** Variety of stakeholders Behavioral freedom Democratic informed choice Freedom of action Income and working conditions

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Engage & Include Alternatives **Tools & Techniques:** Open Innovation Focus Groups Citizen Panels	Who is in control? Who is taking part? **Project Enablers** Researchers People in the food industry	How can we embed stakeholder perspectives? What are the viewpoints of stakeholders? **Project Enablers** Stakeholders Animals and insects	Who will benefit? What are they going to gain? **Project Enablers** Stakeholder groups The society The living environment	Who is affected? Who else could be affected? **Project Enablers** Citizens
Act & Respond Capacities **Tools & Techniques:** Regulation & Standards Societal Challenges oriented research Value-sensitive design	How can responsibilities be shared? How can research structures become flexible? **Project Barriers** Issues with data security Discriminatory practices Gender problems Field testing problems	What needs to be done to ensure social desirability? How can we increase awareness on the impacts? **Project Barriers** Regulation Animal welfare Misuse	How do we ensure that the implied future is desirable? What are the alternative futures? **Project Barriers** System level problems Unpredictability of innovations Environmental issues Ethical dilemmas and problems Production costs	Who prioritizes research? How could this influence diffused more widely? **Project Barriers** Cultural and religious barriers Dishonesty Ignorance Discrimination

RRI Competence

Future-studies abilities
Future-oriented ethical abilities
Pro-activity

Self-awareness
Situational awareness
Social awareness & empathy
Ethical thinking
Disruptive thinking

ANTICIPATION
REFLEXIVITY
RESPONSIVENESS
INCLUSIVENESS

RRI competence

Navigating Complexity or Wickedness
Adaptability
Agency

Multi-perspective & inter-cultural communication
Participatory ability
Trans-disciplinary collaboration
Openness & Transparency

Tassone, V.C., O'Mahony, C., McKenna, E. *et al*. (Re-)designing higher education curricula in times of systemic dysfunction: a responsible research and innovation perspective. *High Educ* **76,** 337–352 (2018)

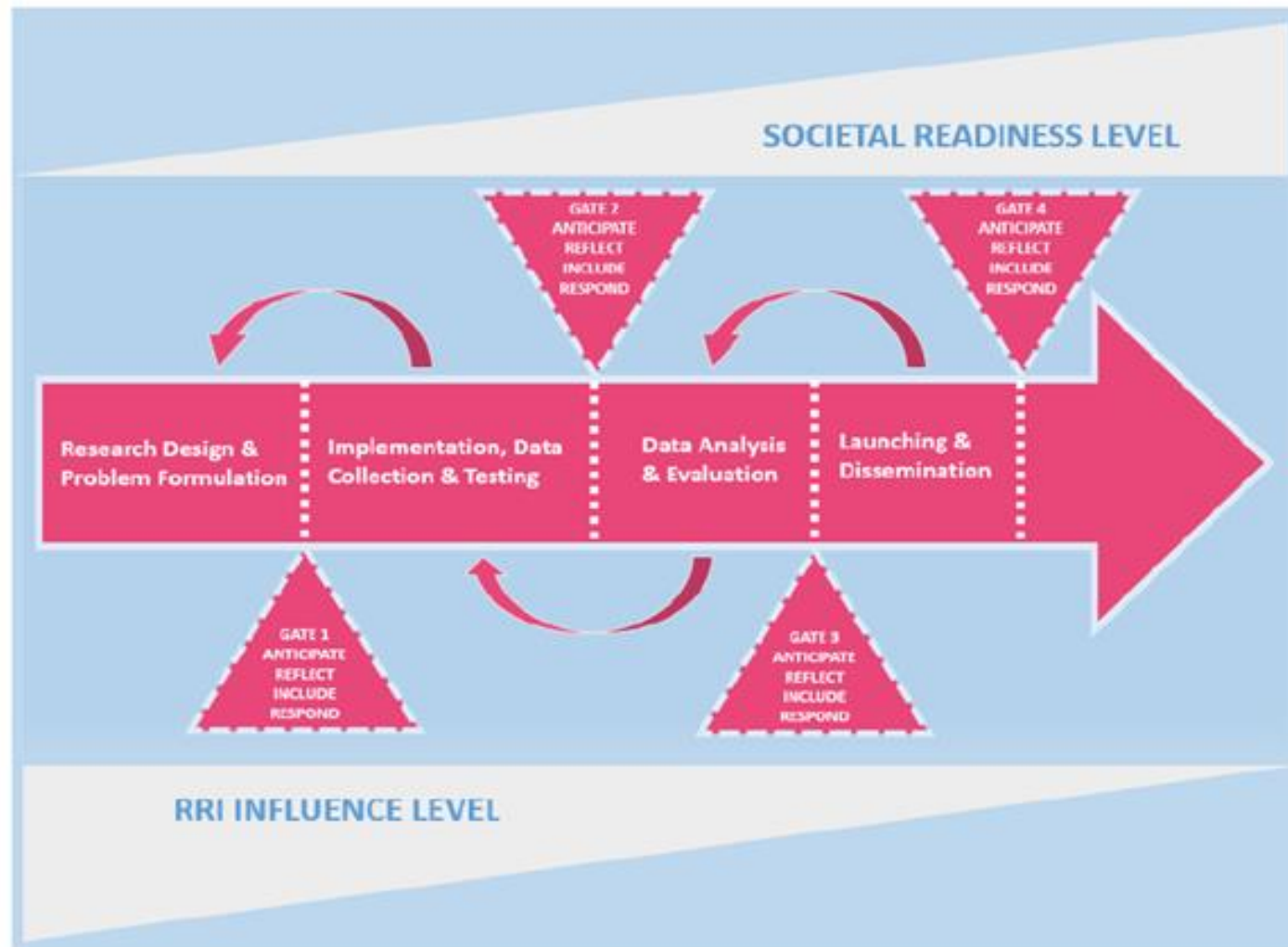# New HoRRIzon Societal Readiness Thinking Tool

- From Technological Readiness Levels (TRL) to Societal Readiness.

- Operationalizing the principles of RRI into forward looking and reflective questions.

- The principles of responsibility will have more influence at the beginning of the project pipeline.

Societal Readiness Thinking Tool

Thinking Tool Societal Readiness Level Scale 2018

Societal Readiness Thinking Tool

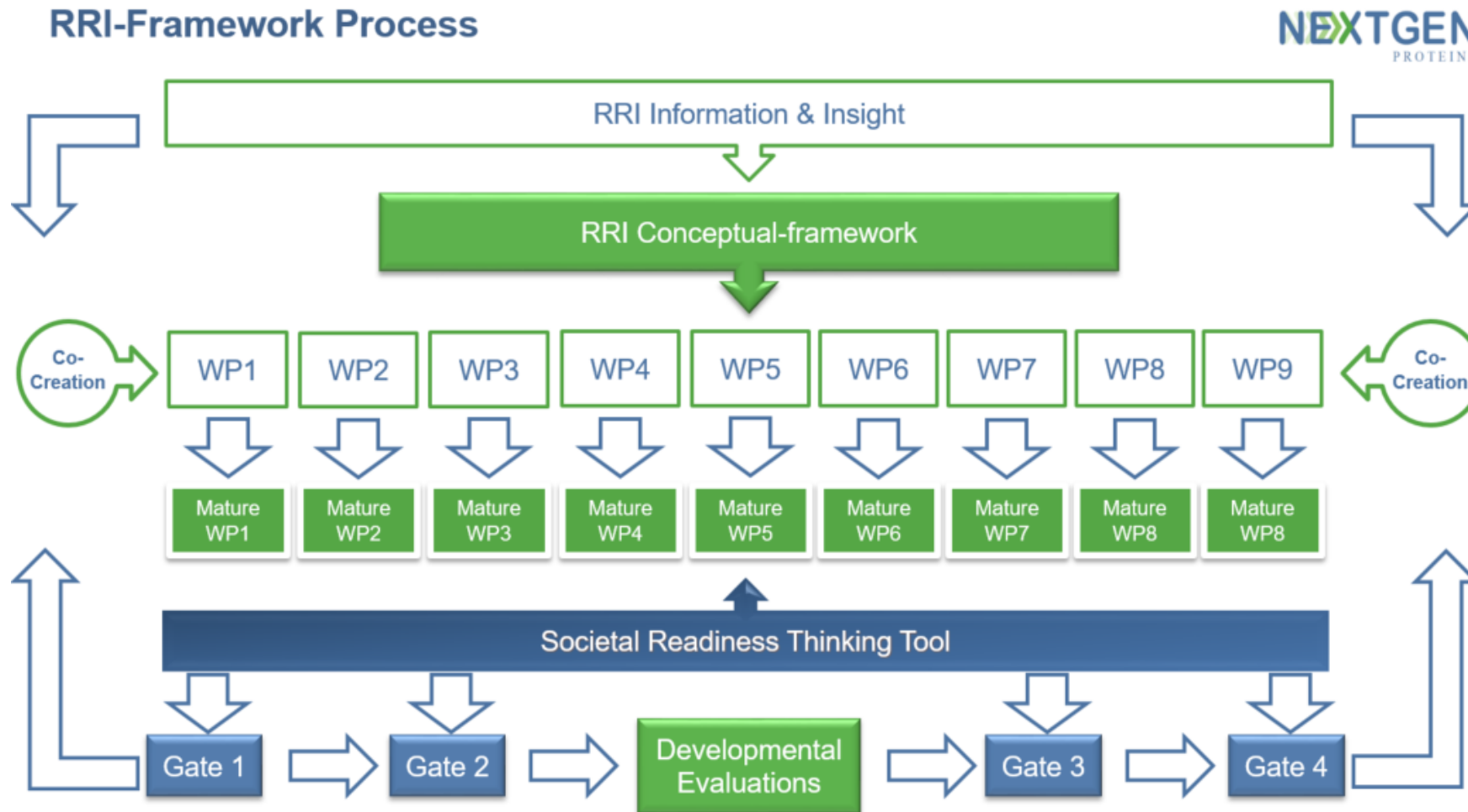https://newhorrizon.eu/thinking-tool/

You can apply the tool to your work package and research plan!
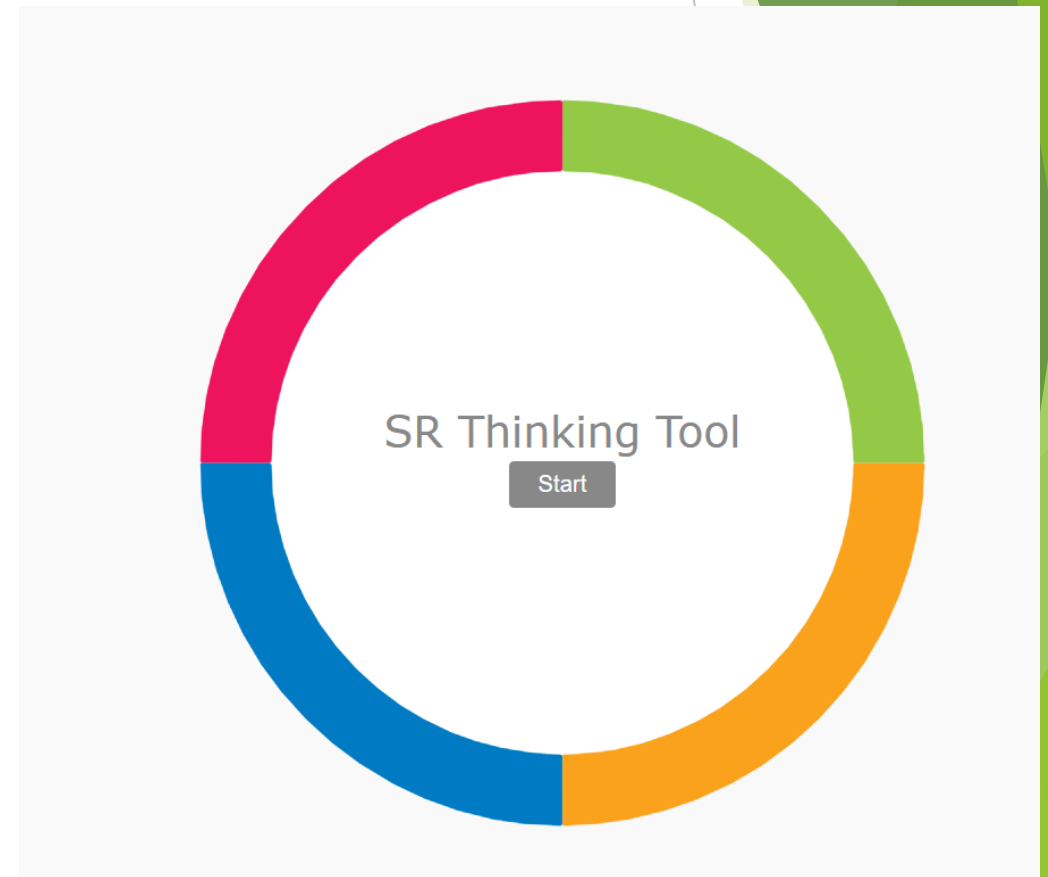
12/03/2020

The RRI Framework Process:

RRI-Framework Process

RRI Information & Insight

RRI Conceptual-framework

Co-Creation

WP1 | WP2 | WP3 | WP4 | WP5 | WP6 | WP7 | WP8 | WP9

Co-Creation

Mature WP1 | Mature WP2 | Mature WP3 | Mature WP4 | Mature WP5 | Mature WP6 | Mature WP7 | Mature WP8 | Mature WP8

Societal Readiness Thinking Tool

Gate 1 → Gate 2 → Developmental Evaluations → Gate 3 → Gate 4

NextGenProteins RRI in practice

Following the RRI framework in WPs
- *NextGenProteins RRI matrix*
- *Societal Readiness Thinking tool*

Exececutive board meetings monthly
Discussions with WPs when needed

Webinar
March 12th
2020

Face-to-face workshops, 1 h/WP in consortium meetings

Project
month

12

24

36

48

Interim
evaluation
Gate 2

Final
evaluation
Gates 3 and 4

In Practice:

▶ We will assist you virtually or face-to-face in reflecting on / answering to the RRI questions posed by the Thinking Tool.

  ▶ Selecting and reflecting on the relevant questions from the Thinking Tool is crucial for your WP.

▶ Per Work Package, schedule a virtual meeting with us during the first half of the project for a co-creation session of *Gate 2* questions of the *RRI Thinking Tool*.

  ▶ Reflecting on RRI questions as early as possible increases the societal readiness of your R&D activities.

▶ The Thinking Tool creates a PDF of your reflections/answers.

  ▶ The document is the basis for the developmental evaluations of the RRI-Framework.

Thank you for your attention!