



Rosie – Responsible and Innovative SMEs in Central Europe

Milano, Oct 9th, 2018

How to manage the innovation process? The Horizon 2020 PRISMA Project

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PRISMA

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 710059. The opinions expressed in this document reflect only the author's view and in no way reflect the European Commission's opinions.



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PRISMA

PILOTING RRI IN INDUSTRY: A ROADMAP FOR TRANSFORMATIVE TECHNOLOGIES (2016 -2019)



Why a roadmap for RRI with Transformative Technologies (TT)

TT are reshaping innovation, there is a need to timely address their pervasive impact on the environment and the society. In particular:

- Demand for foresight and risks anticipation methods
- Ethical review for R&I with TT within current normative frameworks
- No or limited explicit reference to R&I in existing initiatives for responsible business (e.g. CSR)
- Lack of a strategic approach to implement RRI
(resources, structures, baseline/harmonization of approaches)

Main objectives of PRISMA

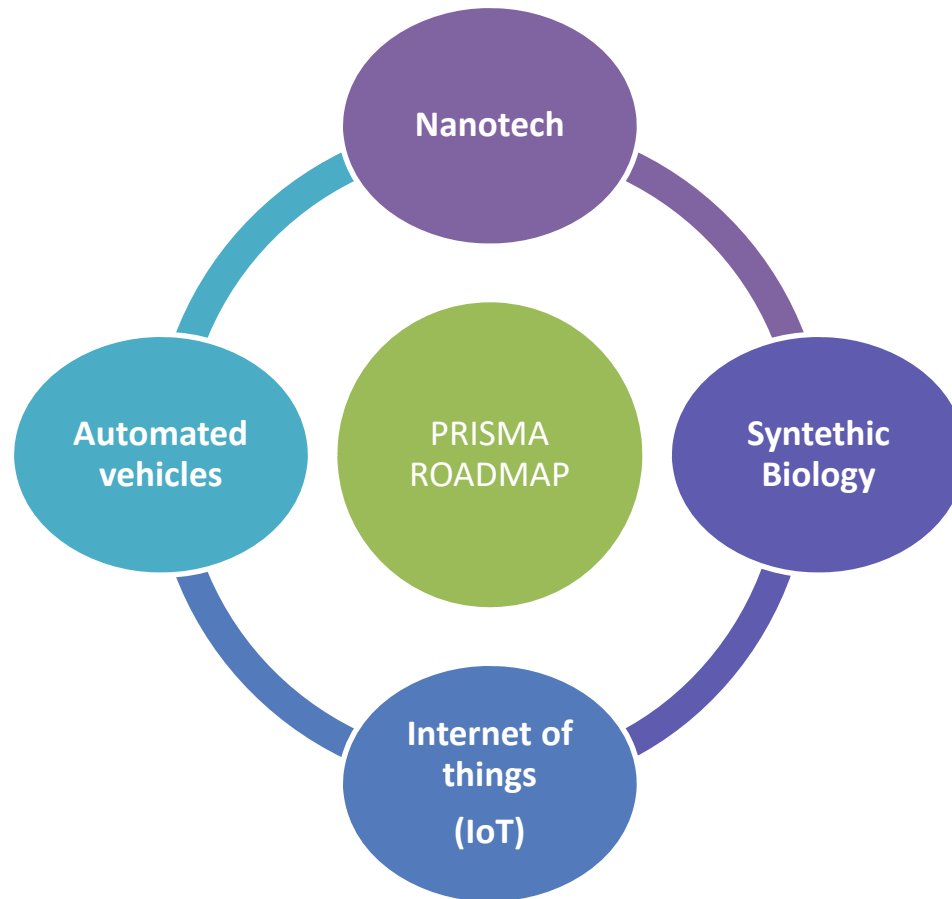
- Evidence how RRI can **improve the innovation process** and its outcomes
- Integrate **RRI in the R&I and CSR policies of companies** active in the **field of transformative technologies** (pilots roadmaps)
- Develop a **CSR/RRI exemplar roadmap** to help industries to implement RRI in their R&I activities

The RRI road-mapping exercise

A step-wise “methodology” - and a collaborative and learning process - to design and manage long-term strategies (roadmaps) for integrating technological, economical, social and ethical goals into product development

The vision of the Prisma Roadmap
Improve the social value of the R&I processes

The PRISMA exemplar road-map will reflect the experience and approach done with 8 individual road-maps (pilots), addressing 4 different transformative technologies



The Prisma industrial pilots

Nanotech

- **COLOROBRIA: Advanced medical therapies for cancer diseases**
- **LABORATORI ARCHA: Safer and more effective dermo-cosmetics**

Biotech & Syn Bio

- **EVOLVA: Sustainable Production of synthetic agarwood products**
- **BISIGODOS: sustainable packaging, coatings from waste algae biorefineries**

IoT

- **HAT: IoT distributed data platform for increased personal control of data**
- **SPECTRO: IoT in cleaning, to improve public health and hygiene**

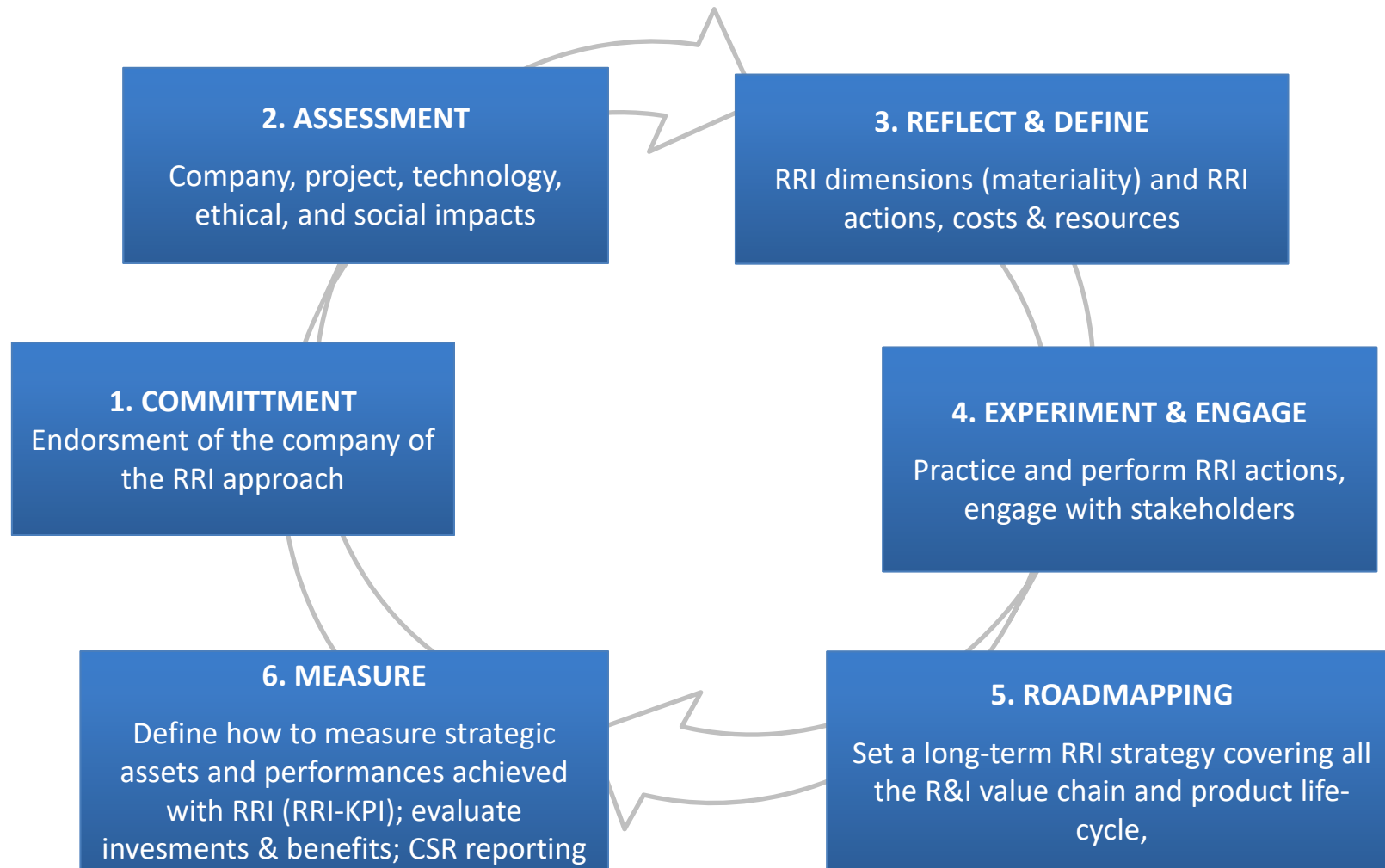
Automated vehicles

- **RDM: automated cars to reduce traffic, pollution, land use**
- **AERIALTRONICS: drones, artificial intelligence and IoT solutions for safe, and acceptable use of drones in cities**

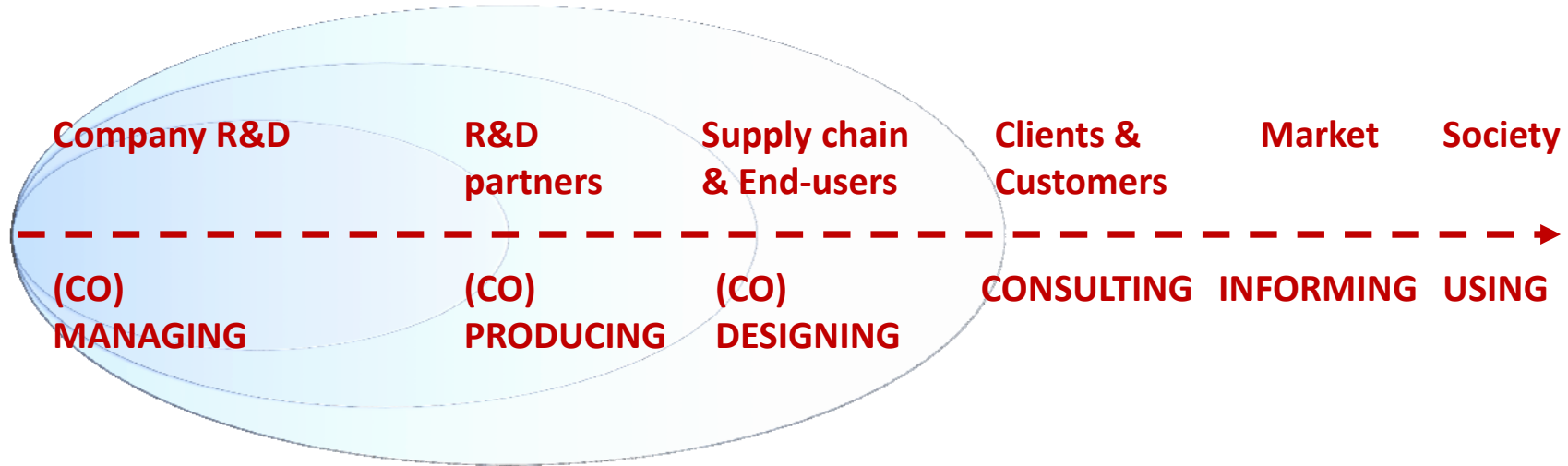
Working with the pilots

- **Focus on specific R&I projects of the individual companies**
- **Influence the internal decision-making processes by involving/committing the Top Management, the R&I Managers and, possibly (when present, also quality, CSR and legal functions**
- **(re)Direct existing company procedures on quality, risk and innovation management and social responsibility**
- **Base on advice from RRI (independent) experts**

The steps of the Roadmap methodology



STEP 2: Assessment



RRI actions should take into consideration the company, the technology considered, context and sector of reference and all the actors along all the R&I value chain

STEP 2: Assessment

The diversity of the 8 pilots allowed to highlight the complexity of the RRI approach

PILOT COMPANY:

- Size
- Business to Business or Business to Consumers
- Formal or informal CSR
- RRI «maturity» level
- Diversity of market sectors

R&D PROJECT:

- Technology
- Time to market
- IPR
- ...

R&D PROJECT STAKEHOLDERS:

- Academia & research centers
- Producers (materials, components)
- Regulators
- Professional end-users
(data providers, healthcare professional, hospitals, ICT companies..)
- Local communities
- End-users
- ..

STEP 3: Reflect & Refine

Core RRI values highlighted by the 8 pilots:

- **Accountability and responsibility** on R&D activities towards society, the environment and stakeholders: workers, customers, users, local communities, patients, etc.
- **Transparency, evidence of trustworthiness, open access** to R&D results
- **Beneficence, justice and equity, affordability** (e.g. of healthcare treatments,
- **Respecting human and the environment**, compliance with moral and ethical principles
- **Quality and sustainability**
- **Precaution**, worker's safety, safety and environmental protection in R&D
- **Privacy** (of users and consumers) and **data ownership**
- **Security and data protection**
- **Trust** with local communities and end-users
- **Promote gender and diversity** aspects in R&D
- **Excellence** in R&D and innovation to tackle societal challenges

STEP 4 : Experiment & Engage

Key actions (performed with pilots):

- Anticipation & Responsiveness :
 - Support **ethical analysis, to reflect on ELSA of the R&I project**
 - **Embedded ethicist**
 - **Awareness-raising and training initiatives** for personnel on ethical and societal aspects of R&I
 - Reflection and support on **design for values**
(**value scenarios to** include social considerations in the design of R&I products)
 - **Advise on RRI and CSR tools**
 - ..
- Inclusion & reflection
 - Organize **dialogues and co-creation initiatives** on ELSA with stakeholders
 - Engage with business partners to address RRI aspects
 - ...

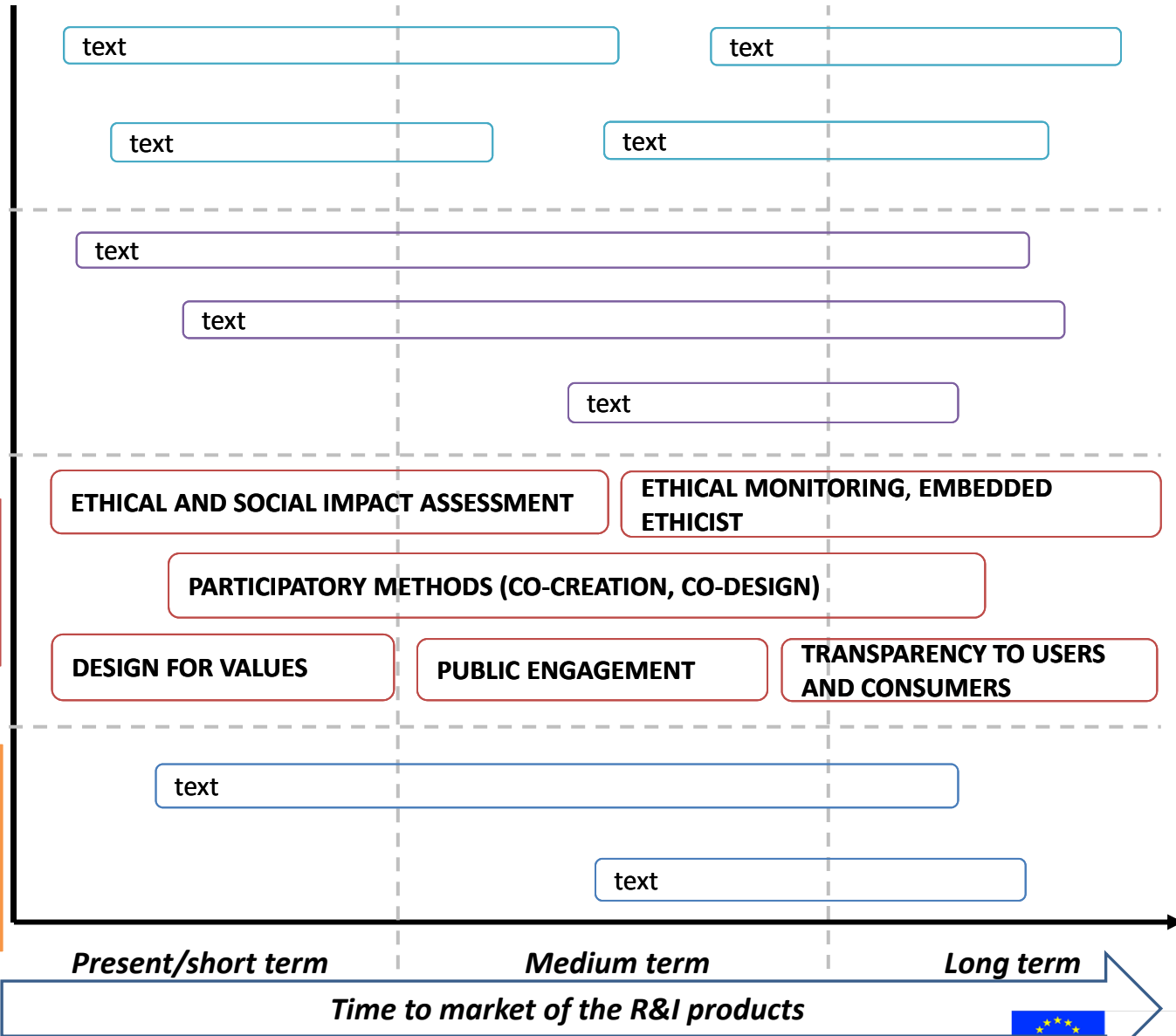
STEP 5: Strategy Building & Roadmapping for RRI

Drivers and bottlenecks to realize the R&I products in a «RRI» way
(technical, ethical, social, economical)

Risk and Challenges to be addressed by the R&I project

RRI approaches, tools, actions to ensure alignment of R&I products with societal needs

R&I Technologies and products sought (and tech phases/ milestones to reach the market)



STEP 6: Measure

Key Performance Indicators (KPI) to monitor the value achieved with RRI

KPI - R&I projects/product

RRI aspects

- **Diversity & inclusion**
- Gender equality
 - Stakeholder engagement
- **Anticipation and reflection**
- Normative boundaries
 - Ethical, social impact assessment
 - Responsiveness and adaptive change
- **Environmental, social sustainability**
 - Needs, values in product design
 - Impacts (risks & benefits)

KPI – R&I Process

Management

- **Technology**
- **Planning, resources**
- **Collaboration/communication**
- **Market**
- **Customers/end-users**

About 20-30 KPI (on 100) per pilot, qualitative/semi-quantitative, selected on a company case by case basis

Drivers & Bottlenecks for RRI

DRIVERS

- Product sustainability, desirability and acceptability, quality
- Build corporate image and reputation, gain competitive advantage
- Motivate workers, improve community relations
- Improve health and safety standards, reduce environmental impact
- Compliance with regulatory requests

BOTTLENECKS

- Build an “RRI culture” within the company
- Improve awareness of the RRI concept and skills
- Additional bureaucratic burden and costs
- Integration of RRI across company functions
- Overlaps with existing social responsibility practice
- Lack of incentives (at policy and regulatory level)

Conclusions

Key points to implement RRI are:

- **Building trust within the company**
 - Understand the context, governance and decision-processes of the company

- **Work to introduce culture changes in the organization (RRI is first of all a culture!)**
 - Commitment of the management (R&D, company level)
 - Expert driven reflection, advice, learning process
 - Look for Return on investment, at least in the medium/long term (for company and stakeholders)

- **Need for tailored methods and approaches**
 - Envisaged RRI tools could inspire, but in most of the cases you need tailored solutions

Next Steps

- Finalize the work with pilots, including definition of individual roadmaps
- Design of the exemplar RRI-CSR Roadmap, as a framework/methodology to assist companies in defining RRI strategies
- Cooperation with the Italian Standard Body to align the methodology with existing standards on CSR, innovation and quality management



Dialogue event

A roadmap to foster social value in business, research and innovation

October 30,31, 2018,
UNI, Milano

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Thanks for your attention!

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