

Business leadership for governance of the advancement of responsible research and innovation in industry (BULGARRII)

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I. FOREWORD

Since the inception in 2000 of the European Research Area (ERA) a lot of work has been done to achieve a unified research area open to the world, based on the Internal Market, in which researchers, scientific knowledge and technology circulate freely and through which the Union and its Member States strengthen their scientific and technological bases, their competitiveness and their capacity to collectively address grand challenges.

Related that, in 2001, the “Science and Society” (SaS) Action Plan was launched to set out a common strategy to make a better connection between science and European citizens, which in 2007 became “Science in Society (SiS)” with the main objective to foster public engagement and a sustained two-way dialogue between science and civil society. Since 2010 the focus of SiS has been to develop a concept responding to the aspirations and ambitions of European citizens: *a framework for Responsible Research and Innovation (RRI)*. The grand societal challenges will have a far better chance of being tackled if all societal actors are fully engaged in the development of innovative solutions, products and services.

RRI means that societal actors 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. RRI is an ambitious challenge for the creation of a Research and Innovation policy driven by the needs of society and engaging all societal actors via inclusive participatory approaches. For meeting this challenge, the RRI policy framework consists of 6 keys¹: *engagement* (choose together); *gender equality* (unlock the full potential); *science education* (creative learning fresh ideas); *ethics* (do the right “think” and do it right); *open access* (share results to advance) and *governance* (design science for and with society).

In recent few years the European institutions, its Member States and private business actors invest considerable monetary and human resources into RRI. The need to gear the innovation process to societal needs is reflected in many high-level policies, strategies and programming documents, such as the objective of the EU 2020 strategy to create smart growth or the Horizon 2020 programme that defines tackling societal challenges as one of the main priorities.

Simultaneously, since the beginning of the 2000s, the European Commission (EC) as actively supported the development of Corporate Social Responsibility (CSR), and communications from 2002 and 2006 adopted a shared understanding of CSR. In October 2011 the EC then launched a new *Communication on a Renewed EU Strategy 2011 – 2014 for CSR*² which stresses CSR as “*the responsibility of enterprises for their impacts on society*”. Governments are still seen to be important facilitators of CSR but beyond this, businesses are encouraged to be the “agents of CSR”.

A particular priority is to align the European and global CSR approaches to improve European interests and opportunities abroad. This calls on EU enterprises to strive to comply with and act in

¹ Responsible Research and Innovation. Europe’s ability to respond to societal challenges. European Commission. DOI 10.2777/11739, http://ec.europa.eu/research/science-society/document_library/pdf_06/responsible-research-and-innovation-leaflet_en.pdf

² A renewed EU strategy 2011-14 for Corporate Social Responsibility, Brussels, 25.10.2011, COM(2011) 681 final.

accordance with internationally recognised CSR guidelines and principles, such as: OECD Guidelines for Multinational Enterprises; 10 principles of the UN Global Compact; UN Guiding Principles on Business and Human Rights; ILO Tri-partite Declaration of Principles on Multinational Enterprises and Social Policy and ISO 26000 Guidance Standard on Social Responsibility.

ISO 26000³ is the international CSR guideline that is designed to support companies with the implementation of their CSR policy. The ISO 26000 guideline is based on the seven core subjects that should be included in a company's CSR policy: *human rights; labour practices; environment; fair operating practices; consumer issues; community engagement and community development*.

At the same time new CSR approach is developed – “CSR 2.0” or “transformative CSR”. Transformative CSR represents a new model of CSR, which focuses on understanding the interconnections of the macro level system – society and ecosystems, and changing its strategy to optimise the outcomes for this larger human and ecological system. The essence of the CSR 2.0 DNA model is the four DNA Responsibility Bases, which are like the four nitrogenous bases of biological DNA (adenine, cytosine, guanine, and thymine). CSR 2.0 embracing the future⁴. There are *five principles* that make up the DNA of CSR 2.0: Creativity, Scalability, Responsiveness, Glocality and Circularity. The CSR 2.0, or transformative CSR⁵, represents a new holistic model of CSR. In the case of CSR 2.0, the DNA Responsibility Bases are: *value creation; good governance; societal contribution and environmental integrity*.

The arguments so far point out the need, it is time to seek and propose the answer to the question on how to scrutinize the role of RRI and CSR in industry with the purpose to synergy the effects of their joint implementation, generally how we may manage responsibility in research and innovation, in particular how to implement RRI along with the industrial output.

Precisely, this is the ambition of the specialists from “Institute of Metal Science, Equipment and Technologies “Acad. A. Balevski” with Hydroaerodynamics Centre – Bulgarian Academy of Sciences” (IMSETHC-BAS), participated in the development of the BULGARRII project proposal - to put forward policy options, creating conditions for synergy the efforts in the field of CSR, RRI and business ethics and technology.

To achieve this, a consortium of friendly research institutions, higher education organisations and enterprises from different EU and non-EU countries will be constituted. The aim of the consortium will be to support common actions to identify and implement the best systemic organisational approaches in order ❶ to open up of the innovation process to social actors that can improve the development process and the quality of the final outcomes of research and innovation in the industrial context. The BULGARRII project will foster collaboration between actors from industry, research and civil society to ❸ jointly define and implement a concrete roadmap for the responsible development of particular technologies, products or services within up to three specific research/innovation fields by Economic Sectors⁶, enabling a detailed comparative assessment, namely:

- Manufacture of fabricated metal products, except machinery and equipment (C25);
- Manufacture of computer, electronic and optical products (C26);
- Manufacture of chemicals and chemical products (C20)

The above mentioned three specific research areas are selected for the project BULGARRII with a clear understanding that they are the heart of the defense industry, which we will further discuss in

³ ISO 26000:2010- Social responsibility;

⁴ CSR 2.0: Reinventing Corporate Social Responsibility for the 21st Century, By Wayne Visser - Director at CSR International, May 13, 2012, <http://www.managementexchange.com/hack/csr-20-reinventing-corporate-social-responsibility-21st-century>.

⁵ The Stages of CSR, <http://www.csrinternational.org/about/stages>.

⁶ **Statistical Classification of Economic Activities in the European Community** (in French: *Nomenclature statistique des Activités économiques dans la Communauté Européenne*), commonly referred to as **NACE**, is a European [industry standard classification system](#) consisting of a 6 digit code

the concept of the project proposal below. Taking into account their specificity, the study of these areas in terms of RRI and CSR will enable the results to be successfully approximated in all other research areas of economy sectors.

The ② existing initiatives, such as RRI and ‘CSR 2.0’ will be set the first steps, but improved business governance will deeply embeds creativity, scalability, responsiveness, "glocality" (term “*glocalization*” comes from the Japanese word “*dochakuka*”, which simply means global localization)⁷, circularity and societal engagement. As a result, the roadmap and implementation plan will be developed, that is demonstrated, tested, and assessed by the partners involved.

On the basis of the main challenges analysis, the BULGARRII project will ⑦ demonstrate how industry and societal actors can work productively together according to the RRI approach. Special attention will be paid on societal engagement, gender equality and gender in research and innovation content, open access, science education and ethics. As a result of these activities measurable and tangible results will be produced in terms of organisational process and structures.

That’s why the **BULGARRII project’s main goal is development of a model of comprehensive approach, for synergy the efforts and abilities in the field of RRI and CSR, directed towards contemporary industrial challenges.** Therefore, to achieve the topic objectives, the BULGARRII project is divided into 5 modules:

- ③ Dynamics of implementation process and assuring of synergy between RRI and CSR in industrial developments;
- ④ Increase of the collaboration between actors from industry, research and civil society in the field of RRI and CSR;
- Development of model of governance and administrative support by national authorities to the RRI and CSR process in industrial aspect;
- ⑤ Development of roadmap for Industrial RRI-inspired CSR platform;
- ⑥ Implementation plan development for INRRICOSORP roadmap fulfillment.

As a *restriction* should be assumed that the *scope* of the industrial aspect of the project BULGARRII should be considered as companies and organizations from sectors of the national economy, contributing to the industry engaged to the creation of capabilities for national security. Industry, related to the security, has its particular specifics regarding RRI (especially for tests using animals for research to develop non-lethal means; for humanizing the means for counteracting threats and etc.). Once cover all RRI aspects in the industry for security (which aspects are much more than those of civilian industry) we can easily approximate them for the rest part of the industry (to form a common framework of RRI policy in industry). Also, for the realization of the administrative part of the project, scientific organizations of BAS and the administration of the Ministry of Economy and Ministry of Education and Science related will be included.

The *expected impact* of BULGARRII project development is ⑨ better uptake of the RRI approach and of the gender dimension in research by industrial actors. In the medium term, will be reasoned the action aims to increase public-private partnership in the innovation process, to increase the social value and acceptability of innovation, and facilitate the emergence of new business models that embed sustainability and social responsibility throughout the entire business process. In the long term, the proposal and basic structure of new standard of RRI and CSR processes at the EU and Global level will be developed.

Not the least, the question that may arise is why IMSETHC-BAS offers the development of such a project? The answer is simple – Because the specialists from IMSETHC-BAS possess proven experience in development of European projects, namely:

⁷ CSR 2.0: Reinventing Corporate Social Responsibility for the 21st Century, By Wayne Visser - Director at CSR International, May 13, 2012, <http://www.managementexchange.com/hack/csr-20-reinventing-corporate-social-responsibility-21st-century>.

- „Development of tools needed to coordinate inter-sectoral power and transport CIP activities at a situation of multilateral terrorist threat. Increase of the capacity of key CIP objects in Bulgaria – BULCIP, HOME/2010/CIPS/AG/019”. The project was developed under the leadership of DG “Migration and home affairs” (HOME), European Commission program "Prevention, Preparedness and Consequence Management of Terrorism and other Security Related Risks";

- “Improvement of the Urban Security and Defence through the Implementation of Advance Detection Sensors System” (USEAID), on the initiative of European Defence Agency.

Precisely in the course of projects development, experts have applied the principles of shared social responsibility, ethics, gender equality, economic and social feasibility of innovative products and systems.

At the same time, IMSETHC-BAS participate effectively in the work and management of the following organizations:

- “Bulgarian CSR exporters cluster”, as a member, which comprises of 11 organizations (www.csrexporters.com). Bulgarian CSR Exporters Cluster is an Association, whose main goals are increasing competitiveness and stimulating Bulgarian export by providing services for easier access of the Bulgarian companies to the world market;

- Bulgarian Defensive Industry Association (BDIA), as a co-chairman, which consists of 14 leading companies from the defence industry of the Republic of Bulgaria (www.bdia-bg.com).

This is a suitable environment for conducting polls, experimentation of criteria developed, checking compliance of methodologies and new platforms proposed in the field of IRR and CSR.

Not least, through the relationships established between IMSETHC-BAS, BDIA and “Bulgarian CSR exporters cluster” with ministries and departments of the central administration of the Republic of Bulgaria, on the occasion of the performance of their duties, BULGARRII project can be developed at public administrative level.

II. PROJECT SUMMARY

Module 1: Dynamics of implementation process and assuring of synergy between RRI and CSR in industrial developments.

1.1. Foreword.

The European Union (EU) is a major player in international science and innovation. Public investment in science and innovation requires a vast social and political constituency sharing the values of science, educated and engaged in its processes, and able to recognise its contributions to knowledge, to society and to economic progress. It allows all societal actors (researchers, citizens, policy makers, business, third sector organisations and etc.) 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. This approach to research and innovation is called RRI.

RRI fosters the creativity and innovativeness of European societies. In general terms, it implies anticipating and assessing potential implications and societal expectations with regard to research and innovation. In practice, RRI consists of designing and implementing R&I policy that will: a) engage society more broadly in its research and innovation activities, b) increase the access to scientific results, c) ensure gender equality in both the research process and research content, d) take account of the ethics dimension, and e) promote formal and informal science education.

At the same time, at international level new approaches have been developed in the field of research and innovation, analogous to RRI. For example, the National Science Foundation, USA, applies criterion in the merit review of proposals called “broader impacts”. With sufficient persuasiveness could be argued that while *RRI* are primarily associated with achieving of societal benefit by bringing other societal actors into the process, by which research moves from the mind,

to the lab, and ultimately into the wider society, the criterion of “*broader impacts*” is primarily concerned with benefiting science, technology, engineering, and mathematics (societal benefit is a toll that fundamental research must pay to keep its funding). Nevertheless, an examination of the broadening of funding criteria over the last four decades suggests that National Science Foundation has been moving in the direction of RRI.⁸

RRI is furthermore a cross-cutting issue. Therefore, there is more pressing need of determining the proper approach for RRI application in industry – joint approach. That is why the development of methodology and criteria for synergy of RRI and CSR efforts and abilities, through their joint application, is the core of this module. The RRI framework, which based on Geoghegan-Quinn (2012) and composed of six defining points (‘engagement of all societal actors’; ‘gender equality’; ‘science education’; ‘ethics’; ‘open access’ and ‘governance’) is an adequate reference groundwork to the methodology proposed. Harmonious models of measurement criteria for RRI inspired CSR, devoted to integrate public engagement, gender equality, science education, open access and ethics will be proposed.

1.2. The dynamics of implementation process and assuring of synergy between RRI and CSR in industrial developments is directly related to the following tasks:

- Analysis of existing in the European Union RRI and CSR policies.
- Analysis of current status of RRI and CSR in the European industrial practices.
- Methodology and measurement criteria development focused on synergy of RRI and CSR abilities in the industry.

1.3. The final results of this Module will be:

- Report on current status of RRI and CSR options, related European Union policy.
- Report on current status of RRI and CSR implementation in the European industrial practices.
- Model of methodology for application the synergy of efforts and abilities between RRI and CSR in the field of defence industry.
- Model of measurement criteria for methodology application.

The results of this module can become the input to some of subsequent project modules.

1.4. References:

1. The European Union explained: Research and Innovation, European Commission, Directorate-General for Communication , Citizens information, November 2014, ISBN 978-92-79-42384-0; doi:10.2775/74012;
2. Peter March, Director, Division of Mathematical Sciences, National Science Foundation, “Broader Impacts Review Criterion” - <http://www.nsf.gov/pubs/2007/nsf07046/nsf07046.jsp>;

Module 2: Increase of the collaboration between actors from industry, research and civil society in the field of RRI and CSR.

2.1 Foreword

RRI represents a step forward in the debate on science in society. RRI encompasses all stages of Research and Innovation (R&I): reflections on relevant research, innovation and societal issues;

⁸ Peter March, Director, Division of Mathematical Sciences, National Science Foundation, “Broader Impacts Review Criterion” - <http://www.nsf.gov/pubs/2007/nsf07046/nsf07046.jsp>;

design, organisation of the research agenda and research teams; involvement of research target groups in R&I; implementation of the research results; feedback towards stakeholders and evaluation of the results; open access to the results by third parties, monitoring and evaluation of R&I, education, etc...⁹ To that end, RRI supports collaboration between all stakeholders and integrates societal issues in order to improve the excellence of R&I.

To increase of the collaboration between actors from industry, research and civil society the European Commission aims to implement RRI as a ‘package’ to better engage society in research and innovation activities. As such, the RRI package focusses on supporting civil society engagement in research and innovation. It also encompasses activities, such as enabling easier access to scientific results to all. In addition, it supports a better uptake of the gender and ethics dimensions in research and innovation. And it aims at spreading good practices in formal and informal science education.

RRI is a profoundly new way of doing research and innovation¹⁰. How industry can work productively together with societal actors and integrate principles and methodologies of RRI into research and innovation processes is the challenge that has not been presented at European and international level.

Such approach is deemed responsible because it fosters the process of co-creation. Indeed, it encourages each stakeholder to care about the consequences for the other stakeholders, for society and for the environment. RRI directly relates to other initiatives often associated with the private sector, such as CSR, responsible finance, socially responsible engineering or the Responsible Care initiative of the chemical industry.

Currently, there are no established, clearly defined and widely accepted approaches and policies in the EU, in the field of collaboration between actors from industry, research and civil society in the field of RRI and CSR, focusing on industrial developments. Precisely, this requires development of a model for collaboration.

2.2 Increase of the collaboration between actors from industry, research and civil society in the field of RRI is directly related to the following tasks:

- Analysis of current status of industrial collaborations in the field of RRI and CSR, focusing on industry, working for national security needs.
- Development of model for collaboration between actors from industry, research and civil society in the field of RRI and CSR, focusing on industry, working for national security needs in the above mentioned three specific research/innovation fields.

2.3 The final results of this Module will be:

- Model of collaboration between actors for the responsible development of particular technologies, products or services within three specific research and innovation fields, in the Economic Sectors - C20; C25 and C26 (in accordance with NACE), as a part of national security industry.

2.4 References:

1. The role of philanthropy in the promotion of Responsible Research and Innovation, European Union, 2014, ISBN 978-92-79-35809-8, doi:10.2777/64285;
2. Special issue: RRI overview – Print Edition, EuroScientist, 29 October, 2014.

⁹ The role of philanthropy in the promotion of Responsible Research and Innovation, European Union, 2014, ISBN 978-92-79-35809-8, doi:10.2777/64285

¹⁰ <http://www.euroscientist.com/special-issue-rri-overview-print-edition/>

Module 3: Development of model of governance and administrative support by national authorities to the RRI and CSR process in industrial aspect.

3.1 Foreword.

EU policy in the area of RRI takes into account both the current status of its implementation and modern trends in its development. It becomes clear that RRI is a proof of good practice not only for industrial enterprises and scientific organizations, but also for related national institutions and administration. This imposes a detailed analysis to be performed of existing coordination links in the area of RRI and CSR between the relevant national authorities, industry of national economy and scientific organizations in the development and manufacturing of defense-related products. As a final result of this work a flexible policy for coordination and management of RRI and CSR in defense industry is expected to be developed.

3.2 The development of model of governance and administrative support by national authorities to the RRI process in industrial aspect is directly related to the following tasks:

- Analysis of current status of coordination in the area of RRI and CSR between administrative structures of the Ministry of Economy and industrial organizations in the sectors of the economy, manufacturing defense-related products.
- Analysis of current status of coordination in the field of RRI and CSR, between administrative structures of the Ministry of education and science and research organizations, involved in the development of defense-related products.
- Development of a flexible policy model, focused on RRI and CSR responsibilities, in the area of defence industry.

3.3 The final results of this Module will be:

- Pooled analysis of current status of the coordination, in the field of RRI and CSR, between national responsible authorities and industrial producers and research organisations, with a focus on defence industry.
- Model of flexible policy, focused on management of RRI and CSR by national authorities, in the area of defence industry developments.

Module 4: Development of roadmap for Industrial RRI-inspired CSR platform.

4.1 Foreword.

On October 25th, 2012 the EC issued "A renewed EU strategy 2011-14 for Corporate Social Responsibility". Together with this, continue efforts on a European scale for identification of policy options for strengthening RRI.¹¹

The main difference between CSR and RRI is that the CSR approach tends to be industry-driven or rather "an expression of corporate strategy, corporate identity, market power".¹² CSR decisions are driven by the values of stakeholders by asking "What do stakeholders care about?". In contrast to that RRI establishes procedures to better integrate societal needs in the process of research and innovation and its methodology is centered on the equal roles and responsibility of societal actors and innovators.

Furthermore, CSR is mostly concerned with ethical acceptability (or legal responsibilities of human rights instruments) and sustainability (e.g. reducing pollution), not with societal desirability. This is illustrated by the United Nations Global Compact, a strategic policy initiative

¹¹ European Commission (2013). "Options for Strengthening Responsible Research and Innovation - Report of the Expert Group on the State of Art in Europe on Responsible Research and Innovation".

¹² Anghel, LD; Grigore, GF; Roşca, M (2011). "Cause-Related Marketing - Part of Corporate Social Responsibility and its Influence upon Consumers' Attitude";

for businesses that are committed to aligning their operations and strategies with ten universally accepted principles, which are concerning human rights, labour standards, the environment and anti-corruption.¹³

Those differences impose the need for development of a modern approach for establishing a novel, integrated, value-mapping conceptual framework for the involvement of all range of stakeholders in RRI and SCR synergy efforts, in particular for industrial actors. Thus, will be avoided squandering the efforts of stakeholders and increased financial resources for state-of-the-art development of policies and practices for common use in Member States.

In addition, the dynamics of social and economic processes and the pulsation of unforeseen and asymmetric threats in these areas impose the need to create a framework for RRI resilience. This will facilitate the ability of CSR activities to withstand stress, shock or change as a result of competing initiatives and/or resource constraints within an organisation.

To tackle the RRI and CSR challenges EC launches many initiatives within the coverage of projects under FP 7 and "Horizon 2020". On the basis of the results of projects related and the dynamics of processes in the field of CSR ("CSR 02" platform) identifies the need of new Industrial CSR through RRI platform to be elaborated.

4.2 Tasks, ensuring the module development.

- Framework development of a new approach, that ensures the resilience of RRI in the process of CSR;
- Development of process of RRI in the creation of Industrial CSR platform.
- Draft roadmap development for implementation of Model of INdustrial RRI-inspired Corporate SOcial Responsibility Platform (INRRICOSORP).

4.3 The main final result of this Module will be:

- Framework model of RRI resilience in the process of CSR.
- Model of INRRICOSORP.
- Model of roadmap, concerning implementation of INRRICOSORP.

4.4 References:

1. A renewed EU strategy 2011-14 for Corporate Social Responsibility, Brussels, 25.10.2011, COM(2011) 681 final.
2. CSR Compendium 2014, Naomi Williamson, Astrid Stampe-Knippel, Tina Weber - June 2014, European Commission, Directorate-General for Employment, Social Affairs and Inclusion, Unit C.1.
3. European Commission (2013). "Options for Strengthening Responsible Research and Innovation - Report of the Expert Group on the State of Art in Europe on Responsible Research and Innovation".

Module 5: Implementation plan development for INRRICOSORP roadmap fulfillment.

5.1 Foreword.

¹³ Cavallaro, Francesca Irene; Schroeder, Doris; Bing, Han (2014). "RRI - Best Practice in Industry; Report for FP7 Project ProGReSS".

Following the roadmap development will be elaborated implementation plan, which will include two parts: medium and long terms activities. It is expected that their implementation to be leading to a comprehensive implementation of both approaches, which in the long term to be completed with development of international standard.

5.2 Tasks to be fulfilled:

- Development of short term implementation plan to increase public-private partnership in the innovation process.
- Development of long term implementation plan to enhance ‘mainstreaming’ and standardisation of RRI and CSR processes at the EU and Global level.

5.3 The final results of this Module will be:

- Proposal for new standards development for synergy the effectiveness of RRI and CSR processes in industry (defence industry) at the EU and Global level.

5.4 References:

1. European Commission (2013). "Options for Strengthening Responsible Research and Innovation - Report of the Expert Group on the State of Art in Europe on Responsible Research and Innovation".
2. A renewed EU strategy 2011-14 for Corporate Social Responsibility, Brussels, 25.10.2011, COM(2011) 681 final.

6 PROJECT RESULTS. (11 products)

- Report on current status of RRI and CSR options, related European Union policy. (M1)
- Report on current status of RRI and CSR implementation in the European industrial practices. (M1)
- Model of methodology for application the synergy of efforts and abilities between RRI and CSR in the field of defence industry. (M1)
- Model of measurement criteria for methodology application. (M1)
- Model of collaboration between actors for the responsible development of particular technologies, products or services within three specific research and innovation fields in the Economic Sectors - C20; C25 and C26 (in accordance with NACE), as a part of national security industry. (M2)
- Pooled analysis of the current status of coordination, in the field of RRI and CSR, between national responsible authorities and industrial producers and research organisations, with a focus on security industry. (M3)
- Model of flexible policy, focused on management of RRI and CSR by national authorities, in the area of security industry developments. (M3)
- Framework model of RRI resilience in the process of CSR. (M4)
- Model of INRRICOSORP. (M4)
- Model of roadmap, concerning implementation of INRRICOSORP. (M4)
- Proposal for new standards development for synergy the effectiveness of RRI and CSR processes in industry (security industry) at the EU and Global level. (M5)