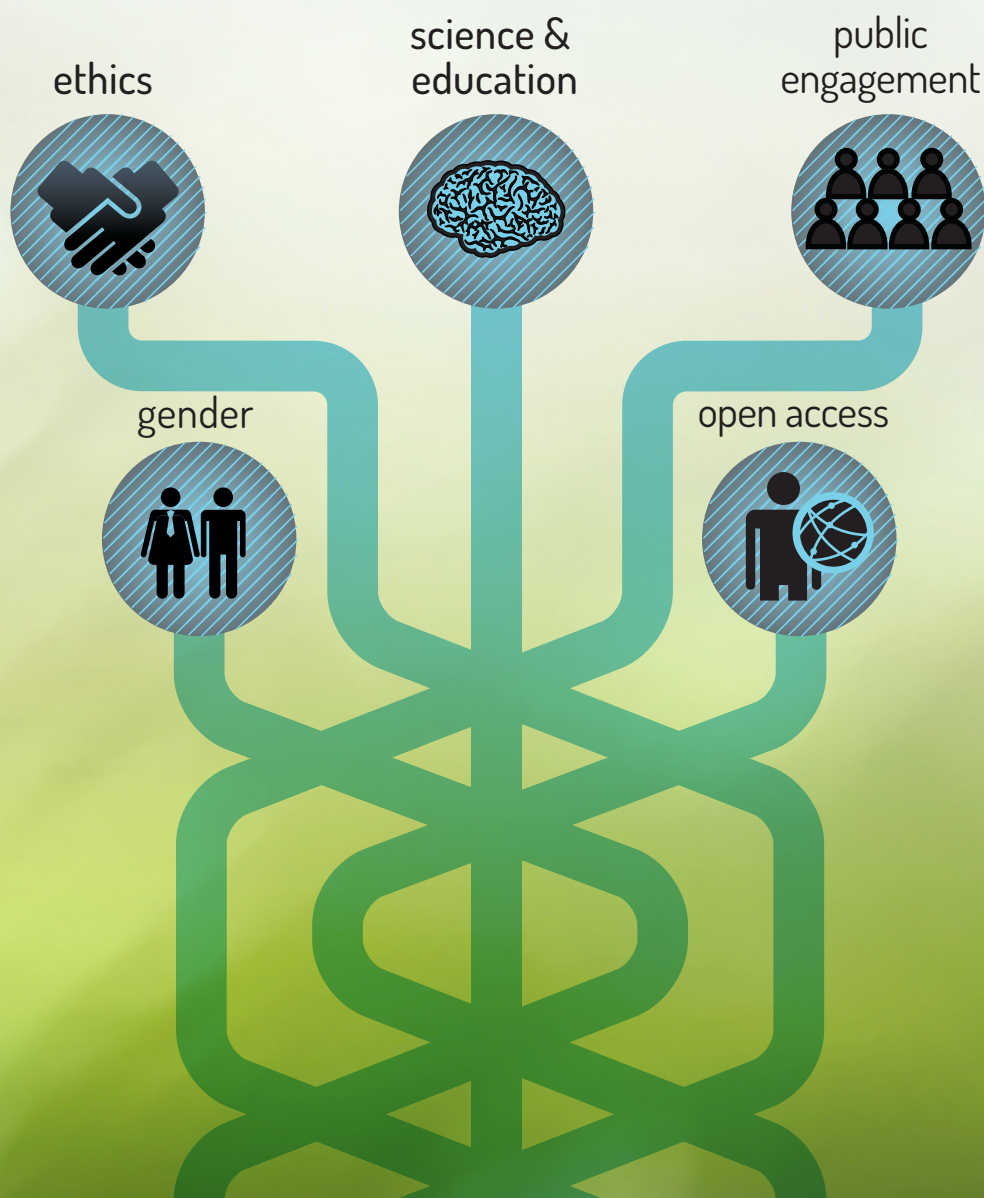




JOINING EFFORTS FOR RESPONSIBLE RESEARCH AND INNOVATION

Concept on organizational RRI goal development: 'How we set goals'

DELIVERABLE D3.1





JERRI – Joining Efforts for Responsible Research and Innovation

Deliverable D3.1

Concept on organizational RRI goal development: ‘How we set goals’

Project Name	Joining Efforts for Responsible Research and Innovation (JERRI)
Project No.	709747
Project Type	Coordination and Support Action
Project Duration	01.06.2016 – 31.05.2019 (36 months)
Project Coordinator	Philine Warnke, Fraunhofer ISI
Funded under	EU Horizon 2020: Science with and for Society
Work Package	WP 3 Development of RRI goals at TNO
Deliverable	D3.1: Concept on organizational RRI goal development
Dissemination Level	Public
Planned Date	Month 9 (February 2017)
Actual Submission	17.01.2018
Version	2nd version revised following recommendations of midterm review (17th January 2018)
Authors	Joram Nauta, Marc Steen, Suzanne Ogier, Jan Kleberg, Greet Leegwater (TNO)

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under Grant Agreement No. 709747.

TABLE OF CONTENTS

GLOSSARY	3
PURPOSE.....	4
EXECUTIVE SUMMARY.....	5
1 Introduction and starting point.....	5
2 Goal setting	7
2.1 Diversity	8
2.2 Ethics	9
2.3 Societal Engagement	10
2.4 Open Access.....	11
2.5 Science Education	12
3 Plans for goal-setting in JERRI.....	13
3.1 Identifying and involving relevant stakeholders	13
3.2 Selecting and applying appropriate methods	16
4 Conclusions	17
4.1 Organizing goal-setting workshops with key stakeholders.....	17

GLOSSARY

- COO - Chief Operational Officer (member of the Board of TNO)
- HR - Human Resources
- JERRI - Joining Efforts on Responsible Research and Innovation
- KNAW - the Netherlands Royal Academy of Sciences
- KPI - Key Performance Indicator
- TNO - The Netherlands Organisation of Applied Scientific Research
- RRI - Responsible Research and Innovation
- SMART - Specific, Measurable, Achievable, Relevant, Timebound
- STT - Stichting Toekomstbeeld der Techniek / The Netherlands Study Centre for Technology Trends

PURPOSE

The purpose of this document (D3.1) is to provide recommendations for organizing the goal-setting processes for Responsible Research and Innovation (RRI) in TNO as part of the JERRI project (www.jerri-project.eu).

In the introduction we mark the starting point by locating TNO within the deep institutionalisation framework developed in Deliverable 1.2.¹ In the next section we then describe the ways in which TNO currently goes about goal-setting, both in general and for the different RRI dimensions: Diversity², Ethics, Societal Engagement, Open Access, and Science Education. This provides a context for current goal-setting practices and will help to develop goal-setting processes in the JERRI project (in WP5). Partly based on D1.2 the theoretical framework for 'Deep Institutionalisation', the current goal-setting processes and partly based on the state of the art, we then propose recommendations for organizing goal-setting in the JERRI project.

This deliverable is the counterpart of D2.1, from the Fraunhofer Gesellschaft. The purpose of both deliverables is to support the goal-setting in the JERRI project, which will be done in Task 2.2 for Fraunhofer and in Task 3.2 for TNO.

More information about the JERRI project, the RRI dimensions and how these are organized in TNO, can be found in Deliverable 1.1 Synthesis of existing RRI practices (November 2016).

¹ Randles, S. (2017): JERRI – Joining Efforts for Responsible Research and Innovation Deliverable D1.2. Deepening 'Deep Institutionalisation'. Available online at http://www.jerri-project.eu/jerri-wAssets/docs/deliverables/wp-1/JERRI_Deliverable_D1_2_Deepening-Deep-Institutionalisation.pdf, checked on 14.12.2017.

² Although the original RRI dimension is called Gender Equality, TNO approaches this topic from a wider perspective including dimensions such as culture or nationality. We refer to this dimensions in terms of Diversity.

EXECUTIVE SUMMARY

This document (D3.1) provides recommendations for organizing the goal-setting processes for Responsible Research and Innovation (RRI) in TNO. First, current processes for goal-setting at TNO are described, for the different RRI dimensions (Diversity, Ethics, Societal Engagement, Open Access, and Science Education).

A key element in goal-setting, especially in the context of RRI, is the involvement of internal (within TNO) and external (outside TNO) stakeholders in the process of goal setting. Such involvement will help to guarantee that the goals are perceived as relevant and appropriate (for TNO), and as ambitious and realistic. Moreover, the selection of relevant stakeholders and the selection of appropriate methods to organize their involvement are key elements of these recommendations.

The document closes with conclusions, which include guidelines and recommendations that will help TNO to organise goal-setting for the different RRI dimensions in the JERRI project (in D3.2). D3.1 is the counterpart of D2.1, of Fraunhofer-Gesellschaft, which will be input for goal-setting at Fraunhofer-Gesellschaft in JERRI (in D2.2).

1 Introduction and starting point

The JERRI project is a project that aims for organizational change and institutionalisation of this change of an RTO to become more aware of practices and attitudes towards Responsible Research and Innovation³. In D1.2 this is referred to as 'deep institutionalisation' of rri practices.

We propose to understand 'institutionalisation' as a conscious and systematic attempt in organizational change towards the (further) internationalizing, embedding and professionalizing of RRI practices. More specifically, we understand it as consisting of the following elements (taken from D1.2):

- the internalization of specific societal values and the embedding of these values in practices in the organization;
- the transformation towards specific normative goals;
- the alignment, integration and interconnection of multiple governance tools, processes and structures;

³ See: <https://www.jerri-project.eu/jerri/about/>

- enabled by effective leadership, including, e.g., vision and support, both top-down and bottom-up;
- and enabled by creating clarity about roles, tasks, responsibilities, processes and structures

In an earlier deliverable (D1.2 Deepening Deep Institutionalisation, pp. 51), six different strategies for organizations to relate to RRI were described, in the form of ‘narratives’; see Table 1 below:

<i>A/ Republic of Science</i>
<i>B/ Technological Progress: Weighing Risks and Harms as well as Benefits of New and Emerging Technologies</i>
<i>C/ Participatory Society</i>
<i>D/ The Citizen Firm</i>
<i>E/ Moral Globalisation</i>
<i>F/ Research and Innovation With/for Society</i>

Table 1: Different strategies for organizations to relate to Responsible Research and Innovation in the form of “6 Grand Narratives”

With its mission, to “connect people and knowledge to create innovations that boost the sustainable competitive strength of industry and well-being of society”, TNO is currently mostly related to *Narrative B: Technological Progress*, which is characterized by a trust in technological progress, with an additional and healthy dose of risk management. Its source of legitimacy is proved by the Triple Helix (or ‘Iron Triangle’) of business, knowledge, and government; they trust TNO to contribute to the improvement of both economy and society.

A part of the work of TNO is also related to *Narrative C: Participatory Society*, which aims to include also the concerns and interests of societal actors, in order to create ‘better’ products that are more aligned to societal needs.

The work of TNO bears little or no resemblance to *Narrative A: Science Republic* (since TNO is concerned with applied science), to *Narrative D: Citizen Firm* (since TNO is primarily oriented to working for paying client) and to *Narrative E: Moral globalization* (since TNO is mostly focused on The Netherlands and Europe; with the exception of international

science, and global issues, like security and sustainability, and the Innovation4Development programme).

Overall, the ambition of TNO, e.g., by participating in the JERRI project, is to move towards *Narrative F: Research and Innovation With/for Society*, e.g., in its ambitions for the amelioration of pressing societal problems.

2 Goal setting

Goals are defined here as: ambitions that are translated into specific (desirable) outcomes. Goals can be fixed (they remain static, also if circumstances change) or flexible (they can be adapted to changed circumstances). Goal setting helps to create focus, to put a specific topic on the agenda and to focus on specific activities that are needed to achieve specific outcomes. Goal setting also helps to monitor progress or deviation and to focus attention. Furthermore, it can help as a reward mechanism. Moreover, the setting of goals can function as “social act” or a “social contract”; it ties persons or organisations to a specific agenda, to specific activities and to specific outcomes.

The process of goal-setting involves, of course, not only the *contents* of the goals, but also the *processes* of goal-setting, i.e. the organizing of processes to involve relevant internal and external stakeholders. Involvement is needed to guarantee that the goals are perceived (by relevant stakeholders) as relevant and appropriate, as ambitious and realistic. Such processes also deal with strategic decision making (e.g., by management), with empowerment (e.g., by staff involved in implementation) and with legitimacy (e.g., as perceived by stakeholders).

Looking at the various goal-setting practices within TNO, we can see various mechanisms at work.

- Goal-setting is partly based on external orientations, e.g., based on ‘best practices’ of other organizations or on an external benchmark, and partly based on internal orientations, e.g., based on ambitions to improve current practices.
- Furthermore, goal-setting is partly a bottom-up process, e.g., when employees on the shop floor voice their ambitions, and partly a top-down process, e.g., when directors articulate their ambitions for the organization.
- Moreover, goal setting is partly informal or ad-hoc, e.g., when reacting to external events, and partly formal and systematic, e.g., when writing action plans for specific topics.

Another introductory remark concerns the ambitions of TNO and Fraunhofer-Gesellschaft to engage in mutual learning. There are differences between TNO and Fraunhofer-Gesellschaft, which will impinge upon the different ways in which TNO and Fraunhofer-Gesellschaft organize goal-setting:

- TNO is relatively smaller in size and in geographical area covered, and can therefore more easily organize workshops with all people involved, e.g., in TNO's Main Office in The Hague ;
- TNO has a relatively higher degree of centralization; therefore, it may be easier to identify staff that have a top-down reach across the entire TNO organization (also because it is smaller);
- And different RRI dimensions have different levels of institutionalisation in TNO and in the Fraunhofer-Gesellschaft; this offers opportunities to learn from each other, both regarding process and regarding content. The different approaches enable mutual learning in the end, and make therefore a contribution that goes beyond the two organisations.

In the coming sections below we will discuss current goal-setting processes for the different RRI dimensions. The rationale behind this exercise is that an understanding of the current goal-setting processes will help to organize future goal-setting. We will discuss the RRI dimensions separately, because the organizational contexts and the level of institutionalisation are different for the different dimensions.

2.1 Diversity

Informed by practices in other organizations and desk research, TNO believes that more diversity in employees will provide benefits both for its employees, e.g., in terms of their wellbeing, and for the organization, e.g., in terms of performance. As described in Deliverable 1.1 Synthesis of existing RRI practices (November 2016); the current numbers of female versus male employees within TNO show that diversity can be improved.

In order to do this, a *Steering Committee Diversity* was formed (in 2011). The committee is chaired by the Chief Operational Officer (COO) of TNO and includes selected members from different parts of TNO. It currently includes the following members; three directors and representatives from HR, communications, the women network and the internationalization team.

Goal setting for TNO started by signing an (external) Dutch charter called "*Talent naar de Top*" ('*Talent to the top*'). This was also a follow-up action of the commitment of one (relatively small) TNO department. Signing of the charter commits TNO to yearly goal

setting and reporting for female/male representation on different levels of the organization. TNO has set the goal at 30% female/male representation on all organizational levels in 2018. This goal is based on research that indicates that 30% is a tilting point: if a minority starts to make up for 30% of a group, it is no longer a minority, but becomes a significant part and will start to influence the group's culture. By setting the 30% goal, TNO aims to realize the benefits of a change in its organizational culture.

Based on this goal, the *Steering Committee Diversity* articulated a (relatively generic) diversity policy and a (more specific) four-year action plan. This action plan was based on internal knowledge and experience with diversity issues, combined with the tailored advice from an external diversity expert. It contains goals regarding Strategy & Policy, Management decisions, Tools & Interventions and Dialogue & Communication.

Overall, the goal-setting process for Diversity (gender) is partly ad-hoc (e.g., the goal of 30% was formulated in reaction to the external initiative “*Talent naar de Top*”) and partly systematic, e.g., in the writing of action plans.

Please note that the RRI dimension diversity or gender also refers to diversity or gender in research content, e.g., in involving people of different genders as research subjects. This topic, however, is not in full addressed yet by the *Steering Committee Diversity* (and therefore could be an interesting topic for goal-setting).

2.2 Ethics

Ethics is institutionalised mainly through the role of the *Integrity Officer*, the *Integrity Commission* (since 2013), and the *TNO Code of Conduct*⁴; the latter addresses various responsibilities regarding different types of integrity: Legal integrity; Business integrity; Scientific integrity; Integrity towards society (societal engagement); and Organizational integrity (human resources and good employment practices).

Goal-setting is organized formally by the *Integrity Commission*; they produced, e.g., the ‘*Action Plan Integrity 2016-2018*’ and yearly action plans. Two Key Performance Indicators (KPIs) feature in these plans:

- Employees’ own perception of integrity within TNO—this is monitored via the annual Employee Survey:
 - “In my immediate environment, people act with integrity”—the goal: 85%;
 - “I am aware of the (contents of) the TNO Code”—the goal: 80%;
 - “In my work, my actions are compliant with the TNO Code”—the goal: 80%.

⁴ TNO Code of Conduct (2014) - accessible via https://www.tno.nl/media/4460/tno_code_uk2.pdf

- Compliance with the “Base Norms for Integrity in Public Administration”⁵. TNO has set for itself the goal to fully comply to $\frac{3}{4}$ (75%) of these norms (to be evaluated objectively).

The goal-setting is partly based on external orientations (e.g., best practices of others or risks identified by others; and on laws and regulations, especially *new* laws and regulations), and partly internal orientations (e.g., on past events, previous ambitions and best practices within TNO; and questions and suggestions of staff within TNO).

In addition, the Integrity Commission sets goals for the further promotion of integrity:

- Further institutionalisation of integrity within TNO, e.g., the practical functioning of the *Integrity Commission*, whistle-blower regulations;
- Communication and dialogues about integrity, within and outside TNO, e.g., about the TNO Code of Conduct (in 2017 integrated in employees’ annual HR-process);
- And development and deployment of tools within TNO, e.g., organizing workshops on Integrity, using the Dilemma Bank, and Training in Professional Integrity and Moral Deliberation, for new employees.

2.3 Societal Engagement

Societal Engagement (or “engagement with society”, in the words of the TNO Code of Conduct) is at the heart of TNO’s mission and strategy.

“TNO contributes to the future by working on the solution to general social and sometimes global issues. TNO is committed to a safer, healthier and more sustainable world. ... we focus on the following themes: Industry; Healthy Living; Defence, Safety and Security; Urbanisation; and Energy.” (TNO Code of Conduct, p. 24).

It is one of the core values of TNO (the others are: integrity, independence, and professional conduct). In other words, Societal Engagement is at the heart of (nearly) all the projects that TNO executes in the different ‘themes’: Industry; Healthy Living; Defence, Safety and Security; Urbanisation; and Energy.

There is currently not a specific organisational unit responsible for Societal Engagement. This does, however, not have to be a problem for goal-setting, as long as the different people involved in these themes, coordinate their goal-setting appropriately. In practice,

⁵Modelaanpak_Basisnormen_Integriteit_Openbaar_Bestuur_en_Politie:
http://www.integriteitoverheid.nl/fileadmin/user_upload/Modelaanpak_Basisnormen_Integriteit_Openbaar_Bestuur_en_Politie.pdf

this is done by Managing Directors, Business Developers and Program Managers. Furthermore, staff working in Strategy and in Marketing & Communications contribute to goal-setting for Societal Engagement.

A key process in goal-setting is the installation of, and collaboration with, five *Strategic Advisory Councils*, one for each theme⁶; these contain on average ten people, mainly from industry, government and academia. TNO staff organize meetings with these Councils on a regular basis (twice per year), to discuss TNO's strategies and plans, with a focus on the impact of TNO's projects in society. This process is meant to ensure support from industry, government and academia for TNO and its projects.

Another key element is the delivery and acceptance of a *Strategic Plan*, once every four years, to the Minister of Economic Affairs, ⁷, which is in compliance with the TNO-Law (article 19) ⁸. This process is meant to ensure government support—which is critical, because they are a key customer and key financier of TNO. In addition, there is the Council for Defence Research, which is involved in goal-setting for the development and deployment of knowledge related to military and national security applications.

Overall, goal-setting for Societal Engagement is done in close collaboration with external stakeholders. In order to create a more representative involvement of societal stakeholders, it may be worthwhile to explore ways to also involve less powerful stakeholders, e.g., not-for-profit or civic organizations, or to involve citizens and their initiatives, e.g., in the *Strategic Advisory Councils*, which currently consist mainly of people from industry, government and academia—this will be further elaborated in D3.2.

2.4 Open Access

At the moment no official policy or organizational unit for Open Access exists at TNO. Open Access questions are addressed through staff working in the Research & Information Support department. This is in contrast with the Fraunhofer-Gesellschaft. The goal-setting for Open Access is mainly driven by external events and by expectations from parties outside TNO (and, in the case of JERRI, by the opportunity to learn from Fraunhofer).

In recent years, institutes such as the KNAW (Netherlands Royal Academy for Sciences) or funding agencies such as the European Commission, the Ministry of Economic Affairs

⁶ Annual Report TNO (2015) (pp. 11, 16, 21, 26, 31): https://www.tno.nl/media/7838/tno_annual_report_2015_web.pdf

⁷ Letter from the Ministry of OCW (2010): <https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/kamerstukken/2010/04/06/strategisch-plan-tno-2011-2014/198630.pdf>

⁸ TNO Law: <http://wetten.overheid.nl/BWBR0003906/2014-01-25>

(EZ) or the Ministry of Education, Culture and Sciences (OCenW) did press TNO to comply to Open Access standards.

TNO as an organization is finding it hard to make decisions and set goals for Open Access. This is because this field is relatively complicated and develops through by case-per-case judgements of individual scientists to either comply or not comply with requests (i.e. a high degree of decentralized decision taking). There is, thus, a need for a company-wide policy, guideline or ambition. Moreover, there is a lack of practical knowledge within the TNO organisation on the implications of different ways of dealing with Open Access issues. There are sometimes dogmatic beliefs within TNO; some advocate a 'totally open' approach, whereas others advocate a 'totally closed' approach. In practice, however, different approaches will be needed, and there will be many exceptions.

A first key goal regarding Open Access would therefore be to 'educate' stakeholders within TNO, to equip them with knowledge and to have an open debate on different approaches. This would be a prerequisite for effective goal-setting. Furthermore, it is expected that goal-setting will benefit from collaboration with Fraunhofer-Gesellschaft, e.g., by learning from their 'best practices'.

2.5 Science Education

TNO has left Science Education mostly to schools, universities and other educational institutes, and to organizations like the Rathenau Institute ("promotes the formation of political and public opinion on science and technology [and] organizes debates on issues and dilemmas in science and technology") and STT ("the Netherlands Study Centre for Technology Trends, which carries out society oriented technology foresight studies [and] facilitates a free space in which enthusiastic stakeholders, experts and creative minds from industry, society, science and government take part").

TNO even received instructions from financiers not to involve itself in educational activities⁹. The dissemination and deployment of knowledge towards SMEs can be considered to be similar to Science Education; TNO has a specific approach towards SMEs¹⁰.

Science education from the perspective of (long term) employer branding is done through activities directed at schools, such as Girls Day; with an aim to attract more women to choose for STEM professions. TNO responds to an external initiative and supports this initiative.

Communication about the projects and results of TNO is commonly seen as a task of the Marketing & Communications departments, in collaboration with staff from the 'Themes'.

⁹ Source: one of the interviews conducted for Deliverable 1.1.

¹⁰ TNO and SME's: <https://www.tno.nl/en/collaboration/tno-and-sme-s/>

In Autumn 2016 a 'trainee project'¹¹ started to develop a plan for a 'TNO Academy'. This bottom-up initiative did deliver a plan for a 'TNO Academy' with both an Impact orientation (*Academy for All*) and a Business orientation. This could be a fruitful foundation to build upon for goal-setting in the JERRI-project.

Activities in Science Education occurred on an ad-hoc basis and on a decentralized level, with some centralized support. It can be said that this RRI dimension would benefit from a more strategic approach in which goal setting can help to align many different stakeholders and perspectives towards a joint ambition.

3 Plans for goal-setting in JERRI

We plan to keep several elements of the current goal-setting practices at TNO in mind when making plans for organizing the goal-setting in the JERRI project:

- The combination of external orientations (e.g., learning from others) and external orientations (e.g., improving current practices);
- The combination of bottom-up process (e.g., enabling employees to voice their ambitions) and top-down processes (e.g., articulating an overall vision);
- The combination of formal processes (e.g., writing action plans) and capabilities to learn from processes (e.g., ad-hoc initiatives).

Furthermore, we plan to pay special attention to the following key activities:

- Identifying relevant stakeholders and involving them in goal-setting;
- Selecting and deploying appropriate methods for such involvement;

These elements will be elaborated in the sections below.

3.1 Identifying and involving relevant stakeholders

A recurring theme is the identification and involvement of relevant stakeholders—where they key term is 'relevant'. Identifying which stakeholders are relevant and organizing ways to collaborate with them is indeed key to successful goal-setting in RRI.

For all RRI dimensions, we will need first to identify relevant stakeholders, both within TNO and outside TNO (because goal setting needs a combination of external and inter-

¹¹ TNO uses 'trainee projects' to allow newly recruited (high potential) staff to tackle assignments from an organizational perspective (and outside their professional boundaries) to get to learn TNO as an organization and to allow 'fresh' perspectives to emerge.

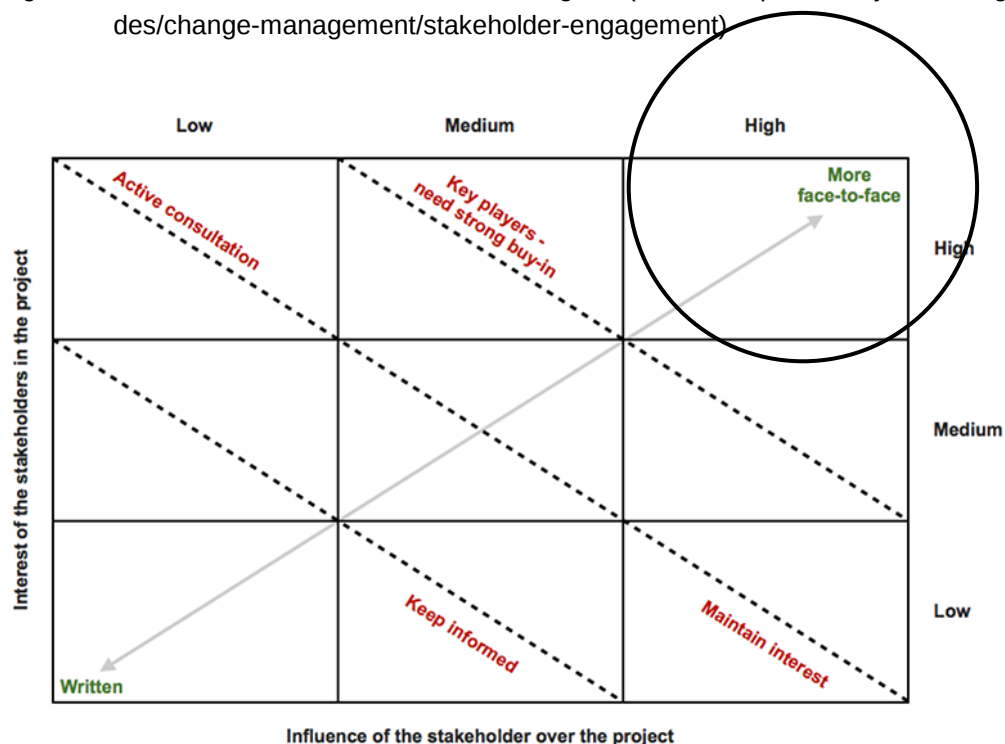


nal orientation), and from various levels of the TNO organization (to promote a combination of bottom-up and top-down). For RRI dimensions it would especially be needed to also invite stakeholder that are affected by the work of TNO but that would normally not be involved in strategy discussions and goal settings; e.g., not-for profit organizations or civic organizations, and citizens' initiatives, which normally do not have much power.

We will use the stakeholder interest and influence diagram—see Figure 1. This diagram helps to map diverse stakeholders, according to their relative interest in the work of TNO and their relative influence on the work of TNO. The idea is then to approach different stakeholders in different ways:

- To organize relatively intense dialogues, e.g., interactive workshops, with stakeholders that have a relatively large interest and influence ('key players');
- To organize less intense dialogues with stakeholders with high interest and low influence ('maintain interest') or with low interest and high influence ('active consultation');
- And to 'keep informed' other stakeholders (with low interest and low influence), e.g., by sending information to them via email or the web.

Figure 1: Stakeholder interest and influence diagram (source: <https://www.jisc.ac.uk/guides/change-management/stakeholder-engagement>)



This means that we will invite ‘key players’ for a series of goal-setting workshops.

First, we plan to organize a series of workshops with *internal* stakeholders. The JERRI-team members will provide a briefing that will serve as a starting point. It may be practical to combine Ethics, Societal Engagement and Science Education in one workshop because these dimensions are highly interrelated within TNO. The identification of key players’ is relatively easy for two of the five RRI dimensions because they have a relatively high level of institutionalisation: Diversity (with the *Steering Committee Diversity*) and Ethics (with the *Integrity Officer* and the *Integrity Commission*). For *Societal Engagement* there is some institutionalisation: there are *Strategic Advisory Councils* and a *Strategy Plan*. However, for *Open Access and Science Education* a first exercise will be the identification of relevant stakeholders. These workshops will deliver draft goals (April 2017).

Next, we plan to discuss the findings from these workshops with external stakeholders, either in the form of face to face interviews or in the form of workshops (with external and internal stakeholders). This will help to challenge, adapt and fine-tune the goal-setting. It is a conscious choice by TNO to first involve internal stakeholders in initial goal-setting, and then to involve external stakeholders in further discussion of the draft goals. On first sight, this may appear to be in contradiction to RRI, which promotes the early involvement of external parties. However, this is not a black-and-white picture. The people in TNO have an external orientation anyway and will use input from outside parties in their forming of ideas for goal-setting. Our choice to not invite external stakeholders in the first round of workshops is mainly based on pragmatic reasons; we expect confusion and difficult decision-making if we put them together in a very early stage.

We expect that this process will deliver goals that are in line with the ambitions and plans of the various Officers and Commissions—and also relevant for the JERRI project. This combination (in line with current ambitions; and relevant for JERRI) will increase the likelihood for success: both within the TNO organization and in the JERRI project.

The goals will be decided upon in line with the ambition and possibilities within the TNO organization. Decision making will be prepared by the JERRI project team, the relevant committees involved and decided by the sponsor. An internal evaluation team will help the decision maker to advise on the justification and budget allotment.

3.2 Selecting and applying appropriate methods

For the workshops, we envision settings with 6-8 people around the table, working interactively. We have experience with various workshop formats within TNO. In addition, we can draw from the state of the art, e.g., from the RRI Toolkit¹². Looking at the various workshop formats available, we can (very roughly) distinguish between different formats¹³, with different starting points and different results:

- Future Scanning or Forecasting, e.g., starting with analysing trends and then articulating and discussing different scenarios and strategic options;
- Creative Problem Solving: e.g., starting with the scoping of a specific problem and then generating and evaluating possible solutions (e.g., via 'brain storming');
- Stakeholders Support, e.g., understanding different stakeholders' interests, and finding ways to align these into something that all relevant stakeholders can support;
- Participatory Design, Co-design: e.g., collaborating with 'users' (customers, citizens) in scoping the problem, exploring possible solutions, and articulating actions;
- Appreciative Inquiry: e.g., understanding what currently works well, and exploring ways to improve these practices (oriented towards organizational change).

Some combination of these workshop formats will probably be most appropriate, e.g., a combination of Appreciative Inquiry (what works well as a starting point) and Stakeholder Support (trying to align different stakeholders' interests). And some of Participatory Design will be integrated as well, e.g., for Societal Engagement (also inviting citizens groups or groups that are affected by the work of TNO), and for Ethics and Open Access (inviting TNO employees from the shop-floor, for a practical perspective, e.g., inviting a business developer who has experience in working with 'sensitive dossiers', or inviting a senior scientist who has experience in publishing in open access journals).

We plan to organize the workshops in such a manner that there is room for divergence and room for convergence¹⁴, and will deliver 'SMART' goals: Specific; Measurable; Achievable/Assignable; Relevant/Realistic; and Time-bound.

¹² RRI Toolkit: <https://www.rri-tools.eu/search-engine>

¹³ Based on: Steen (2016): Organizing Design-for-Wellbeing projects: Using the Capability Approach. *Design Issues*, 32 (4), 4-15; Steen (2013): Co-design as a process of joint inquiry and imagination, *Design Issues*, 29 (2), 16-28; and Steen (2011): Tensions in human-centred design, *CoDesign*, 7 (1), 45-60.

¹⁴ Based on the work of Jan Buijs, e.g., Steen, Buijs and Williams (2014): The role of scenarios and demonstrators in promoting shared understanding in innovation projects, *International Journal of Innovation and Technology Management*, 11 (1).

A program for these workshops (120-180 minutes; with 6-8 people) may typically look like this (to be fine-tuned):

- 30 minutes: Round of introductions and presentation of the input document
- 30-60 minutes: Divergence: Exploration and discussion of different options
- 30-60 minutes: Convergence: Evaluation and decision making regarding options
- 30 minutes: Conclusions and articulation of practical action points

4 Conclusions

The purpose of this deliverable is to provide practical recommendations for setting goals for the RRI dimensions (i.e. to provide input for Task 3.2 in the JERRI project).

4.1 Organizing goal-setting workshops with key stakeholders

TNO plans to organize the following activities for goal-setting—see Figure 2:

- Provide a starting point for the goal-setting workshops, both regarding content (based on input from internal and external stakeholders) and regarding process (workshop format and instructions) (February 2017);
- Organize a series of goal-setting workshops with internal stakeholders, e.g., with 6-8 people around the table, using elements from Appreciative Inquiry (starting with 'what works well'), Stakeholder Support (align different interests) and Participatory Design (involving the people will be affected). It may be practical to combine Ethics, Societal Engagement and Science Education in one workshop. These workshops will deliver draft goals (March-April 2017);
- Organize discussions or workshops with specific external stakeholders to challenge and fine-tune these goals. And to organize processes within TNO for internal approval and support (May-June 2017);
- To deliver a document (D3.2) that documents both process and outcomes in terms of goals that JERRI will work with for each of the five RRI dimensions.

Figure 2: Goal-setting process for RRI

