

Joining Efforts for Responsible Research and Innovation Deliverable 10.3 RTO Engagement Manual

Authors: Philine Warnke - Fraunhofer ISI; Marc Steen - TNO

Contributions from:

Andreas Röß (Fraunhofer ISI), Cornelia Reimoser (Fraunhofer Headquarters), Anne Spitzley, Michaela Friedrich (Fraunhofer IAO), Tina Klages, Andrea Wuchner (Fraunhofer IRB), Jürgen Bertling, Venkat Aryan (Fraunhofer UMSICHT)

Joram Nauta, Reijer Gaasterland, Suzanne Ogier, Sophie Emmert, Katarina Putnik, Jan Kleberg (TNO)

Sally Randles, Manchester Metropolitan University MMU

Design: Francois Jegou, Selam Mebrahtu - Strategic Design Scenarios, Brussels



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

About

In JERRI, Fraunhofer and TNO embarked on a joint learning process on **building capacity** for responsible research and innovation i.e. for **creating impact together with society that is both socially desirable, sustainable and ethically acceptable**.

In the process we:

- set goals for organizational change
- implemented several pilot activities
- captured and compared the learnings
- generated long term transformation pathways



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With this deck of cards we would like to invite other RTOs to engage with us into a dialogue on what we did and what we learned ...

Look at the postcards we have sent from our RRI journey!

Contact us to learn more:

Philine Warnke (Fraunhofer ISI)
philine.warnke@isi.fraunhofer.de

Joram Nauta (TNO)
joram.nauta@tno.nl



Fraunhofer

Overview Content

What we achieved – our RRI pilot activities

- Ethics (7)
 - Fraunhofer
 - TNO
- Gender (7)
 - Fraunhofer
 - TNO
- Societal Engagement (3)
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What we learned – our shared lessons

- Reasons for institutionalizing RRI at RTOs (4)
- Success factors for the process of institutionalizing RRI at RTOs (12)



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“At Fraunhofer,
if your **research
programme**
focuses on flying
robotics you will
be supported
**to reflect on
societal impacts.**”

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One important element of responsibility is the **capacity for ethical reflection on the impact of our research and innovation activities**.

To strengthen this capacity at Fraunhofer we have:

- developed and applied a process for **screening our internal strategic research initiatives for ethical issues** and discussed ways to address these issues with the project leaders
- developed and applied a format for **ethical reflection** within our research teams

“... time for
research, **time for**
ethics ...”



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Ethics – Gender – Open Access – Societal Engagement



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Nomadic Society

"... put yourself in the shoes of
people with diverse moral
perspectives!"

Fraunhofer



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Fraunhofer

ethics 4/7

“We developed an **Ethics Game for Management**, to support managers in developing their ethical sensitivities and moral deliberation capabilities.”



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Trip

...n a project for a client who feels very strongly about
t customer who has been doing business with TNO for
rge projects. As a form of appreciation and inspiration for
Jan are both offered a fully-arranged trip with
nference by the client. Besides the conference visit,
evening activities on the agenda. Jan believes that the
work or the project. Peter also sees it that way, but likes

...lowed to make the trip and is officially reprimanded. No:
the client financing it is not right.

Decision

Yes

No

Scenario

Dilemma

Advice

Pause



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TNO

ethics 6/7



“We contributed to
the 2018 version of
the Netherlands
Code of Conduct for
Research Integrity”

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“We organized and delivered **Female Leadership Programmes** for 100+ female professionals, and created a database to support the careers of (female) talent.”

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One important element of responsibility is the capacity **to equally mobilise diverse perspectives** into our research approach.

To strengthen this capacity at **TNO** we have:

- organized and delivered a **Female Leadership Programme** for 100+ female professionals, and have set focus on monitoring and promotion of (female) talent.

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TNO

gender 2/7



“We delivered **Implicit Bias Training sessions** for Top 25 managers and for 25 Human Resources and Marketing and Communication professionals.”

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TNO

gender 3/7



“...when we first arrived, our scientist parents took **parental leave** with part-time / telework at Fraunhofer to take care of us”

...part of JERRI's inspiring case studies.

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To strengthen this capacity at **Fraunhofer** we have:

- collected and promoted inspiring stories from colleagues who have found their own way of **reconciling private and professional life**
- developed a **“gender diversity toolbox”** with more than 30 practical examples from and for research organizations
- developed and promoted a **guideline for assessing the need for gender specific research approaches**

A photograph of a laboratory setting. In the foreground, a man in a white lab coat and safety glasses is leaning over a table, looking at a large Erlenmeyer flask containing a bright green liquid. To his right, a woman in a white lab coat and safety glasses is sitting at the table, looking at a laptop. In the background, two other scientists in lab coats are visible, one standing and one sitting. The background is a chalkboard with some writing on it. The overall scene is a busy laboratory environment.

“Emma and Carlos,
both **working part
time** at Fraunhofer,
are sharing a
research program
leadership position...”

...part of JERRI's inspiring
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The Mobile
Parent Child
Office is part of
the Fraunhofer
“**Gender Equality
Toolbox !**”

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Fraunhofer

gender **6/7**

5. Are your questionnaires, surveys, focus groups, etc. designed to **unravel potentially relevant sex and/or gender differences in your data?**

6. Do analyses present statistics, tables, figures and descriptions that **focus on the relevant gender differences that came up in the course of the project?**

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Fraunhofer

gender **7/7**

Citizen Café

“Air quality is an issue in the neighborhood!”

“Also for us working here everyday”



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Ethics – Gender – Open Access – Societal Engagement

One important element of responsibility is **the capacity to engage diverse societal voices** into planning and doing research and innovation and to **be a contributing part of the public sphere**.


To strengthen this capacity at **Fraunhofer** we have:

- created and implemented a format of **citizen cafés where we engage in a low-barrier two way open conversation with citizens** from our neighborhood within our institute and in the public market
- created and implemented a format for **public debate** where we address controversial topics
- developed methods for deriving stakeholder perspectives on our research topics from the public discourse



Fraunhofer

societal
engagement 1/3



“We invited civil society organizations and non-governmental organizations into our strategy **Advisory Councils.**”

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To strengthen this capacity at **TNO** we have:

- invited civil society organizations and non-governmental organizations into our Strategy Advisory Councils

TNO

societal
engagement 2/3



“We use the **Impact Canvas** to anticipate a project’s societal impact and ethical issues, and to identify partners to collaborate with.”



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- used the **Impact Canvas** to anticipate a project's societal impact and ethical issues, and to identify partners to collaborate with.

TNO

societal
engagement 3/3

A close-up photograph of a person's hands. The right hand, wearing a black wristband, is pointing at a tablet screen. The left hand, wearing a silver ring, is resting on a laptop's trackpad. The background is blurred, showing a wooden structure.

“We created a Platform
Open Science, an Open
Access Policy, and a
(draft) Decision Tool to
help project managers
handle Open Access
and IP issues.”

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One important element of responsibility is the capacity to make our **research results accessible to all society wherever possible**

To strengthen this capacity at TNO we have:

- created a **Platform Open Science**, and an **Open Access Policy** to help project managers handle Open Access and IP issues

A close-up photograph of several walnuts. Two walnuts in the foreground are cracked open, revealing the light-colored, textured nutmeat inside. The shells are a warm, brownish-tan color with characteristic wrinkled patterns. The background is a plain, bright white surface.

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Ethics – Gender – Open Access – Societal Engagement

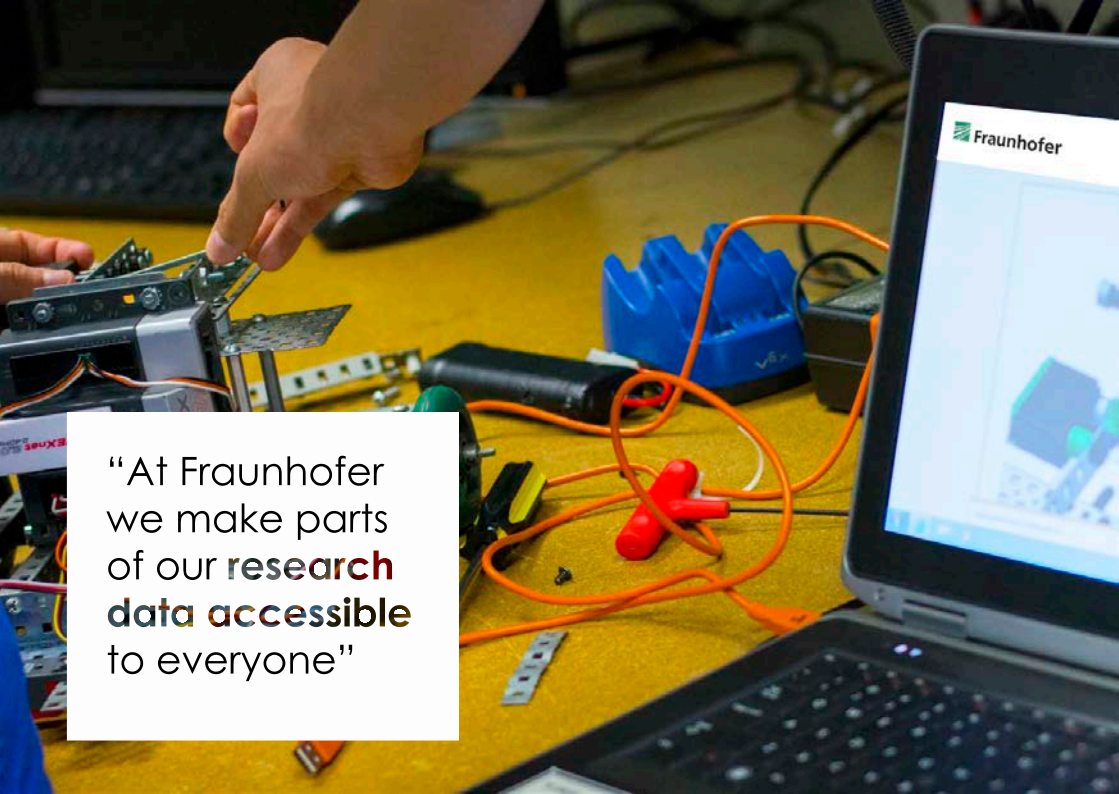
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A person's hands are shown working on a robotic assembly, possibly a prosthetic arm, which is mounted on a metal frame. The assembly is connected to various wires and components. In the background, a laptop is open, displaying a website with the Fraunhofer logo and a 3D model of a mechanical part. The workspace is cluttered with various tools and components, including a blue plastic stand, a black power supply, and several orange cables. The overall scene suggests a research or development environment.

“At Fraunhofer
we make parts
of our **research**
data accessible
to everyone”

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To strengthen this capacity at **Fraunhofer** we have:

- Implemented an **open research data repository** and training on research data management.
- Developed a communication concept for open access to internal and external stakeholders
- Developed **procedure for discussing open science** aspects with clients in contract negotiations
- Developed proposals for **open business models**

One shared reason for doing RRI is:

It is required by **our stakeholders**

4) Please select one or more policy areas in which your organisation operates:

- ☐ Archaeology
- ☐ Architecture
- ☐ Audiovisual and media
- ☐ Biodiversity
- ☐ Civil protection
- ☐ Climate
- ☐ Conservation
- ☐ Culture
- ☐ Cultural Heritage
- ☐ Natural Landscape
- ☐ Employment
- ☒ Disaster Risk Reduction
- ☐ Economy
- ☐ Education
- ☐ Employment and social affairs
- ☒ Environment
- ☐ Equal opportunities
- ☐ External relations
- ☐ Fundamental rights
- ☒ Innovation
- ☐ Migration
- ☒ Natural resources
- ☐ Public affairs
- ☒ Public health
- ☐ Research
- ☒ Science
- ☐ Statistics
- ☒ Sustainable Development
- ☒ Systemic eco-innovation
- ☐ Training
- ☐ Urban development
- ☐ Youth
- ☐ Other

5) To which SDG(s) is your proposal contributing to ?



Review

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Shared reasons for doing RRI at RTOs

One shared reason for doing it:

It is required by our stakeholders

- R&I policies target SDGs and grand challenges and request ethical conduct.
- Citizens and clients in industry expect us to contribute to societal challenges.
- RRI will enable us to renew our **"license to operate from society"**.

 **Fraunhofer**

TNO

Shared reason 1/4

One shared reason for
doing RRI is :

Because it's **excellence**!

THE CRITERIAS FOR THE SCIENTIFIC EXCELLENCE AWARD		Score (1-10) 1 = lowest 10 = best	Co
Scientific output			
<input type="checkbox"/>	Patents		
<input type="checkbox"/>	Publications → Open science		
<input type="checkbox"/>	Field normalized citation rate		
→ Gender sensitive mobility concept			
Scientific recognition and networking			
<input type="checkbox"/>	Rate of publications		
<input type="checkbox"/>	National and <u>international</u> <u>co-publications</u> → AI ethics manifesto!		
<input type="checkbox"/>	Evaluated Excellence Research (SDGs contribution)		
<input type="checkbox"/>	Awards and prizes + Excellence Award for my Citizen science Project.		

THE CRITERIAS FOR THE SCIENTIFIC EXCELLENCE AWARD — Page 4/4

- Page 4/4 -

Signature

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Shared reasons for doing RRI at RTOs

One shared reason for doing it:

Because it's excellence!

RRI practices open a new and important action-oriented view on research and innovation excellence

- New ideas and perspectives due to greater diversity of voices and values
- Opening up for alternatives by breaking routines & challenging "fast thinking"
- Better outcomes and processes through engagement of stakeholders and users and alignment with their requirements

 **Fraunhofer**

TNO

Shared reason 2/4

One shared reason for doing RRI is:

It's a **unique opportunity** to build on the mediator role

OPEN CONSULTATION



6pm - 7pm

JOIN US ON THE **20/04/2020**

TO DISCUSS ABOUT

**THE FUTURE
OF MOBILITY
IN YOUR NEIGHBORHOOD**

Brought to you by :
Research and Technology Organisations (RTO's)

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Shared reasons for doing RRI at RTOs

One shared reason for doing it:

It's a unique opportunity to build on the mediator role

RTOs play a crucial role in moving towards **responsible innovation ecosystems**. Due to their close linkages to industry, policy, academia and other societal actors a shift in RTOs practices will "draw in" many others. There is a huge opportunity for **RTOs to become prime catalysts and mediators of this responsibility transformation** and thereby to increase their relevance in innovation systems.

At the same time if we fail to reach out to society our licence to operate may be questioned ...

 **Fraunhofer**

TNO

Shared reason 3/4

One shared reason for
doing RRI is:

It is enjoyable!

Our colleagues
request, appreciate
and enjoy it.



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Shared reasons for doing RRI at RTOs

One shared reason for doing RRI is:

It is enjoyable!

Our colleagues request, appreciate and enjoy it because because:

- It enables us to build coalitions around our shared societal values
- It increases our chances to make useful contributions to society
- We experience novel and creative processes and ideas
- it resolves tensions in our teams.

 **Fraunhofer**

TNO

Shared reason 4/4



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One shared lesson is ...

Stress how **RRI**
aligns with **RTOs**
traditional
missions



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Shared lessons for institutionalising RRI

One shared lesson is ...

Stress how RRI aligns with RTOs traditional missions

We need to emphasize the **alignment of RRI goals with our traditional missions of contributing to research excellence and competitiveness** in our respective innovation systems - goals which are also highly relevant to societies' wellbeing. Rather than just adding the new narratives on the surface we need to weave them into the established ones.

 **Fraunhofer**

TNO

Shared lesson 1/12

One shared lesson is ...

We need responsible
business models to
create value for and
with society



In JERRI, Fraunhofer and TNO embarked on a joint learning process on **building capacity** for responsible research and innovation i.e. for **creating impact together with society that is both socially desirable, sustainable and ethically acceptable**.

In the process we:

- set goals for organizational change
- implemented several pilot activities
- captured and compared the learnings
- generated long term transformation pathways



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Shared lessons for institutionalising RRI

One shared lesson is ...

We need responsible business models to create value for and with society

As RTOs we cannot build our efforts on public funding alone. Rather **we need to work together with our clients in industry and society to find "responsible business models" that are benefiting and adding value for all sides**. RRI paradigms such as "open science" and "citizen participation" need to be adapted to the RTO context to unfold their full potential.

 **Fraunhofer**

TNO

Shared lesson 2/12

One shared lesson is ...

We need to join
learning processes
with **all**
stakeholders



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Shared lessons for institutionalising RRI

One shared lesson is ...

We need joint learning processes with all stakeholders

RRI barriers are deeply engrained into current research and innovation landscapes. Established structures like excellence indicators, curricula, professional identities cannot be challenged by one actor alone. In order **to take RRI to the next level diverse actors need to form value-driven "pioneering coalitions"** to jointly co-produce systemic change.

 **Fraunhofer**

TNO

Shared lesson **3/12**

One shared lesson is...

We need **to adapt RRI** to RTO requirements e.g. **confidentiality and efficiency**

... messages about RRI!

Why should we do research data management?

For data loss prevention, data protection, copyright assignment, reputation enhancement and to fulfill requirements of funding organizations and publishers.

Enjoy your

... drink and the messages about RRI!

What is research data management?

It's all courses of actions taken to ensure that digital research data is usable.

... and the messages at

research

To g
for g
for
dr
p

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Shared lessons for institutionalising RRI

One shared lesson is ...

We need to adapt RRI to RTO requirements e.g. confidentiality and efficiency

RTOs face specific challenges in **moving towards "science with and for society"**. RRI paradigms such as "open science" and "citizen participation" need to be adapted to the RTO context to unfold their full potential.

 **Fraunhofer**

TNO

Shared lesson 4/12

One shared lesson is ...

We need to create spaces for **deep diffusion of responsible practices** into the organizational culture



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Shared lessons for institutionalising RRI

One shared lesson is ...

We need to create spaces for deep diffusion of responsible practices into the organizational culture

Responsible practices need to be deeply institutionalized into the organizational culture in order to unfold their full potential.

This embedding requires time, resources and a trusting environment.

We need to create safe spaces for creative experimentation.

 **Fraunhofer**

TNO

Shared lesson 5/12



Success Factors for
Institutionalizing RRI:
Frame the institutionalization
of RRI as a process of
organizational change

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Shared lessons for institutionalising RRI

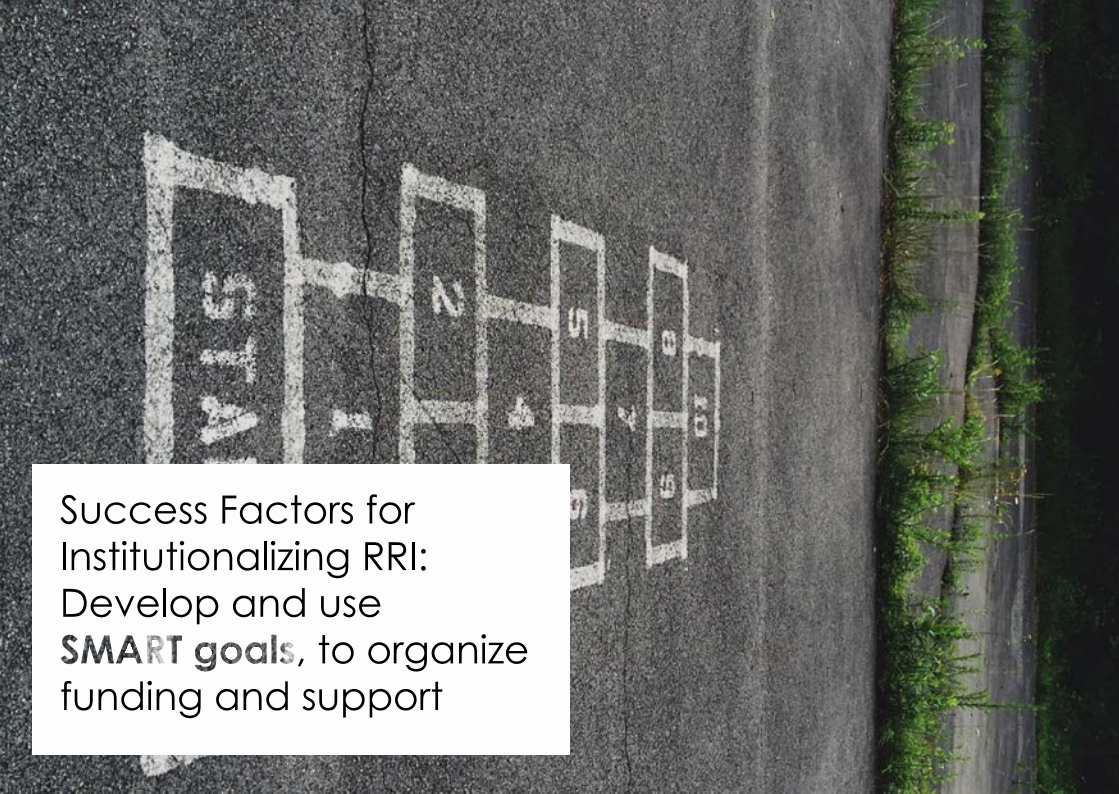
One shared success factor is:

Frame the institutionalization of RRI as a **process of organisational change**

 **Fraunhofer**

TNO

Shared lesson 6/12

A photograph of a hopscotch grid painted on a dark asphalt surface. The grid is composed of white lines forming a series of squares and rectangles that recede into the distance, creating a strong sense of perspective. The numbers 1 through 10 are visible within the squares. To the right of the grid, there is a strip of green grass and a concrete curb.

Success Factors for
Institutionalizing RRI:
Develop and use
SMART goals, to organize
funding and support

In JERRI, Fraunhofer and TNO embarked on a joint learning process on **building capacity** for responsible research and innovation i.e. for **creating impact together with society that is both socially desirable, sustainable and ethically acceptable**.

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Shared lessons for institutionalising RRI

One shared lesson is:

Develop and use SMART goals to organise funding and support

A photograph of a sculpture where a large, weathered wooden hand is wrapped around the trunk of a tree. The hand is mounted on a wooden post decorated with a zigzag pattern. The background shows a park-like setting with trees and a paved area.

Success Factors for
Institutionalizing RRI:
Establish support within
the organization, both
formal and informal

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Shared lessons for institutionalising RRI

One shared lesson is:

Establish support within the organisation both formal and informal

A close-up photograph of a person's hands planting a small, green, segmented cactus into a terracotta pot. The hands are covered in dark soil, indicating active work. The pot is filled with dark soil and small, light-colored pebbles. In the background, other potted plants and soil are visible, creating a gardening or indoor plant care scene.

Success Factors for
Institutionalizing RRI:
Actively **involve change
agents**, from both the
inside and the outside

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Shared lessons for institutionalising RRI

One shared lesson is:

Actively involve **change agents**, from both the inside and the outside

Success Factors for
Institutionalizing RRI:
Organize a **flexible process**,
to seize opportunities and
deal with contingencies

Autonomously
Self-Identify
as an under-Rep
Group

(cannot
materially survey)

Site can link
to reviewed
companies!

balanced
reviewing

feeling
detection

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Shared lessons for institutionalising RRI

One shared success factor is:

Organize a **flexible process** to seize opportunities and deal with contingencies



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Success Factors for
Institutionalizing RRI:
Exchange lessons learnt
within the project team
and with others

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Shared lessons for institutionalising RRI

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