

OSLO AND AKERSHUS
UNIVERSITY COLLEGE
OF APPLIED SCIENCES

Hvordan gjennomføre et prosjekt etter RRI-prinsipper?

NARMA

6 mars 2018

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Leder av Forskergruppen for Ansvarlig Innovasjon

<https://www.facebook.com/groups/OsloGroupResponsibleInnovation/>

<https://hioaresponsibleinnovation.wordpress.com/>

The screenshot shows a web browser window with the URL <https://hioaresponsibleinnovation.wordpress.com/projects/>. The page features a navigation menu with the following items: **About**, **Projects in the Research Group**, and **People in the research group**. Below the navigation, there is a large image on the left showing a globe and a DNA helix. On the right, there is a dark vertical menu with several project titles in white text. The main content area on the right is partially obscured by a white box.

Navigation: **About** / **Projects in the Research Group** / **People in the research group**

Project titles in the dark menu:

- EST-Frame*
- Naturalness in Human Cognitive Enhancement*
- PatentEthics – Ethical dimensions of patent law in non- human biotechnology*
- Printeger: Promoting Integrity as an Integral Dimension of Excellence in Research*
- Resiliency and adaptation to climate change in regional strategies (2014–2016)*
- The Assisted Living project: Responsible innovations for dignified lives at home for persons with mild cognitive*

Text in the white box:

Standards
RRI-Practice

Section header in the white box:

Projects in the Research Group



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LANDING ON RRI

TOOLKIT

TRAINING

RRI COMMUNITY

REGISTER/LOGIN

EN (GB) ▾

Welcome to the RRI Toolkit

Towards an open science and innovation system
that tackles the societal challenges of our world



WHAT IS RRI?

Looking for resources



Type here what you are looking for

SEARCH IN THE TOOLKIT

Find tailored information according to...

...your profile



Policy
Makers



Research
Community



Education
Community



Business &
Industry



Civil Society
Organisations

...your interests



Ethics



Gender
Equality



Governance



Open
Access



Public
Engagement



Science
Education

Process dimensions

To reach these outcomes, practicing a more responsible research and innovation requires that processes are:



Diverse & inclusive: involve early a wide range of actors and publics in R&I practice, deliberation, and decision-making to yield more useful and higher quality knowledge. This strengthens democracy and broadens sources of expertise, disciplines and perspectives.



Anticipative & reflective: envision impacts and reflect on the underlying assumptions, values, and purposes to better understand how R&I shapes the future. This yields to valuable insights and increase our capacity to act on what we know.



Open & transparent: communicate in a balanced, meaningful way methods, results, conclusions, and implications to enable public scrutiny and dialogue. This benefits the visibility and understanding of R&I.



Responsive & adaptive to change: be able to modify modes of thought and behaviour, overarching organizational structures, in response to changing circumstances, knowledge, and perspectives. This aligns action with the needs expressed by stakeholders and publics.

A normative framework for RRI: the six policy agendas

The European Commission has provided more concrete normative orientations in the form of six policy keys that RRI should further:

Ethics

focuses on (1) research integrity; the prevention of unacceptable research and research practices; and (2) science and society; the ethical acceptability of scientific and technological developments.



Gender Equality

is about promoting gender balanced teams, ensuring gender balance in decision-making bodies, and considering always the gender dimension in R&I to improve the quality and social relevance of the results.



Governance

arrangements that lead to acceptable and desirable futures have to (1) be robust and adaptable to the unpredictable development of R&I (de facto governance); (2) be familiar enough to align with existing practices in R&I; (3) share responsibility and accountability among all actors; and (4) provide governance instruments to actually foster this shared responsibility.



Open Access

addresses issues of accessibility to and ownership of scientific information. Free and earlier access to scientific work might improve the quality of scientific research and facilitate fast innovation, constructive collaborations among peers, and productive dialogue with civil society.

Public Engagement

fosters R&I processes that are collaborative and multi actor; all societal actors work together during the whole process in order to align its outcomes to the values, needs and expectations of society.

Science Education

focuses on (1) enhancing the current education process to better equip citizens with the necessary knowledge and skills so they can participate in R&I debates; and (2) increasing the number of researchers (promote scientific vocations).



Responsible innovation and corporate social responsibility (SAMANSVAR)

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SAMANSVAR is a program for research on responsible innovation and Corporate Social Responsibility (CSR). Research funding will be allocated via joint calls with other programs. SAMANSVAR will also contribute to the Research Council's efforts to promote responsible research and innovation (RRI).

Funding

All calls for proposals from the Research Council

The Digital Life – Convergence for Innovation initiative builds on existing competencies and infrastructure in Norwegian research communities. Some key elements were developed as part of the FUGE programme, such as technology platforms on genome sequencing, bioinformatics and proteomics. However, the initiative will need to involve a large number of knowledge communities in academia and industry in the fields of applied mathematics, informatics, biology, medicine and beyond.



identifisert. Forventningen er at *prosessene* i forsknings- og innovasjonssystemet i økende grad skal kunne karakteriseres som:

1. **Fremadskuende** (anticipatory): Forskningsrådet er gjentatte ganger utfordret på "diagnostisk og prospektiv" kompetanse og kapasitet. Det har vist seg krevende å utforme substansielle diagnoser og tilsvarende gode prospekter eller fremkast.⁴ Teknologiene har potensielt sett terrengdrende effekter som realiseres i komplekse og dynamiske samspill med andre samfunnskrefter. Det er mangel på kunnskap om og forståelse for hvordan slike potensialer kan realiseres i forhold til ønsket samfunnsutvikling (ref *directionality*).
2. **Refleksive** (reflexive): Dette handler om kompetanse og kapasitet for i større grad å kunne ta fram og drøfte forutsetninger for forsknings- og innovasjonsarbeid i form av grunnleggende, ofte implisitte antagelser og forståelsesrammer, ureduserbar usikkerhet, samt områder av uvitenhet. Stor grad av refleksivitet er viktig for å kunne lede forsknings- og innovasjonsprosesser i ønsket retning.
3. **Inkluderende** (inclusive): Samfunnsdialog har lenge stått høyt på agendaen i forsknings- og innovasjonssystemet. Den opplysende og forklarende monologen fra forskningens side skulle erstattes med (samfunns)dialog. Etter en periode hvor vekten har vært lagt på å utvikle ulike former for dialog-mekanismer, som folkejuryer, lekfolkskonferanser, konsensuskonferanser og fokusgrupper, for å hjelpe "samfunnet å tale tilbake til forskningen", rettes fokus nå i økende grad mot forskningsmiljøene selv. Det handler om ferdigheter knyttet til å åpne opp forsknings- og innovasjonsprosessene, erkjenne grenser for egen kunnskap og kompetanse samt kunne be om hjelp i arbeidet med prosessenes mulige terrengdrende effekter.
4. **Dynamiske /fleksible** (responsive): Arbeidet med de tre første dimensjonene skal gi kontinuerlige innspill og støtte til en utvikling av styringsproblematikken (ref *governance*)

Framework for Responsible Innovation

Anticipate, reflect, engage and act (AREA)

Support

Expectations

Acknowledgements and resources

EPSRC is committed to develop and promote Responsible Innovation. This site reaffirms our own commitment and sets out our expectations for the researchers we fund and their research organisations.

Introduction

Responsible Innovation is a process that seeks to promote creativity and opportunities for science and innovation that are socially desirable and undertaken in the public interest. Responsible Innovation acknowledges, that innovation can raise questions and dilemmas, is often ambiguous in terms of purposes and motivations and unpredictable in terms of impacts, beneficial or otherwise. Responsible Innovation creates spaces and processes to explore these aspects of innovation in an open, inclusive and timely way. This is a collective responsibility, where funders, researchers, stakeholders and the public all have an important role to play. It includes, but goes beyond, considerations of risk and regulation, important though these are.

As a public funder of research, we have a responsibility to ensure that our activities and the research we fund, are aligned with the principles of Responsible Innovation, creating value for society in an ethical and responsible way. EPSRC does not wish to be prescriptive about how Responsible Innovation is embedded in the research and innovation process. We recognise that some researchers are already well engaged with this agenda. We also recognise that different approaches might be required for different research areas. There may be instances where detailed consideration is premature or even unwarranted. In other areas of research, a responsible innovation approach may be highly recommended, or even required. As such we recommend that all researchers demonstrate awareness of and commitment to, the principles of Responsible Innovation. Taking an approach that encompasses the following steps, should



EUs RRI-nøkler

Implementing RRI in Horizon 2020

Responsible research and innovation is key action of the 'Science with and for Society' objective. RRI actions will be promoted via 'Science with and for Society' objective via:

- actions on thematic elements of RRI ([public engagement](#), [open access](#), [gender](#), [ethics](#), [science education](#)), and
- via integrated actions that for example promote institutional change, to foster the uptake of the RRI approach by stakeholders and institutions.

RRI is furthermore a 'cross-cutting issue' in Horizon 2020, which will be promoted throughout Horizon 2020 objectives. In many cases, inter- and transdisciplinary solutions will have to be developed, which cut across the multiple specific objectives of Horizon 2020. Within the specific objectives of programme, actions can focus on thematic elements of RRI, as well as on more integrated approaches to promote RRI uptake.

Utviklingstrinn i retning av et transformert forsknings- og innovasjonssystem?

The RRI keys

- Ethics, gender, OA, science education, societal engagement

The RRI process dimensions

- Anticipation, inclusion, reflection, responsiveness

Transformation into an open science system



Hva står det i utlysningene?

Eksempel: Work Programme

Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy

SC2-2018-2020

- SFS-03: International co-operation, transdisciplinary research, and integration of SSH and RRI including gender aspects to ensure long-lasting implementation of the results are encouraged.
- SFS-15: Following the RRI principles, proposals should ensure that societal actors (researchers, citizens/CSOs, policy makers, businesses, etc.) are brought together to align the forthcoming research programmes with the values, needs, and expectations of society.
- SFS-17: Following the RRI principles, proposals will ensure 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 society.*
* 'In case of proposals applying the 'multi-actor approach', see also its definition in the introduction to this Work Programme part.
- SFS-24: Following the RRI principles, proposals will ensure 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 society. Active participation of municipalities and SMEs is strongly encouraged.
- RUR-11.: Both sub-topics (A and B) are suitable for INCO and SMEs participation, and are expected to integrate technology with SSH and RRI aspects.

Work Programme Part: [Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy](#)

systems research in Europe (region and country level), and globally. It will design hands-on future-oriented training^[6] (primary and secondary school and university levels) on food systems science and innovation, produce any other relevant training, communication and dissemination material adapted to different stakeholders and assess and showcase key findings, good practices, networks, case studies, EU projects and demonstrations in food systems R&I. It should take into account the output of envisaged EC funded expert support for the implementation of FOOD 2030.

This CSA will have the duration of three years and will be implemented as a Mobilisation and Mutual Learning (MML) action plan fostering the concept of Responsible Research and Innovation (RRI). The Commission considers that proposals requesting a contribution from the EU of up to EUR 4 million would allow this challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

to contribute to the further development and implementation of the European Commission's FOOD 2030 initiative and ensuing action plan to connect, structure and scale-up research and innovation for food and nutrition security in Europe, but in a global context. The CSA will serve to mobilise a wide diversity of actors and experts to:

- raise awareness and help increase the outreach and impacts of European R&I outcomes and initiatives in the field of Food and Nutrition Security.
- contribute to strengthen R&I policy coherence and programme alignment.

FIT4FOOD2030

- Skal støtte EU-kommisjonens FOOD2030-policy ved å etablere bærekraftige, balanserte stakeholderplattformer på ulike nivåer. Hensikten er å informere og starte opp konkrete tiltak for å bedre knytte sammen, strukturere og oppskalere FoU-investeringer for FNS (Food and Nutrition Security) i Europe, med et 'food system's perspective' og en RRI/Open Science tilnærming
- 15 partnere i Europa (inkl. NFR), koordinert av Vrije Universiteit Amsterdam
- Start høst 2017

Home



**FOOD 2030: Research & Innovation
for Tomorrow's Nutrition & Food Systems**
High-Level Event, 12-13 October 2016, Brussels

recent responsible research and innovation (RRI)²¹ and open science (OSc)²² approaches.

Responsible Research & Innovation (RRI) and Open Science

RRI is a dynamic, iterative process by which **all stakeholders** involved in the R&I practice become **mutually responsive** to each other and **share responsibility** regarding the RRI outcomes and process requirements. RRI activities aim to align a wide range of actors and activities involved in R&I processes **towards desirable, sustainable and acceptable future outcomes**. By virtue of this approach more rapid progress is to be made towards the **solution of grand societal challenges**. This is an uncertain and somewhat unpredictable process that is

²¹ Gibbons, M. et al. (1994). *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. SAGE Publications.

²² Reason, P. & Bradbury, H. (2008). (eds) *The Sage Handbook of Action Research: Participative Inquiry and Practice*. SAGE Publications.

²³ 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. ISBN: 978-92-79-28233-1.

²⁴ Pontika, N. et al. (2015). *Fostering Open Science to Research using a Taxonomy and an eLearning Portal*. In: *iKnow: 15th International Conference*

value-based, and allows for the discussion of purposes and values. Responsibility is then not seen at the level of individuals but in terms of the collective. The responsibility is distributed, which requires **active participation of the various actors**. It is this new mobilization that in turn ensures that R&I becomes more effective. To reach these outcomes, practicing a more responsible research and innovation requires that R&I processes become:

- **Diverse & inclusive:** involve early a wide range of actors that engage in R&I practice, deliberation, and decision-making to yield more useful knowledge.
- **Anticipative & reflective:** envision impacts and reflect on the underlying assumptions, values, and purposes to better understand how R&I shapes the future.
- **Open & transparent:** communicate in a balanced, meaningful way through methods, results, conclusions, and implications to enable public scrutiny and dialogue. This benefits the visibility and understanding of R&I.
- **Responsive & adaptive to change:** be able to modify modes of thought and behaviour, and adapt overarching organizational structures, in response to changing circumstances, knowledge, and perspectives.

RRI requires that specific attention is being paid in R&I activities to public engagement, gender equality, ethics, science education and open access.

Assisted Living-prosjektet

- Ansvarlig utvikling av velferdsteknologi for eldre
 - NFR: SAMANSVAR, IKT PLUSS
 - 2015- 2019
 - NOK 22 mill
 - 3 PhD-stip



Partnere

- OsloMet
 - Sykepleie (Helsefag): Liv Halvorsrud, Dag Karterud, Dagfinn Nåden
 - Ergoterapi (Helsefag): Anne Lund, Torhild Holthe (stipendiat)
 - Elektronikk og IT (TKD): Evi Zouganeli, Flavia Casagrande (stipendiat)
 - Ansvarlig innovasjon (AFI): Ellen-Marie Forsberg, Reidunn Norvoll, Erik Thorstensen (stipendiat)
- Teknologirådet: Hilde Lovett og Adele Flakke Johannessen
- Sensio
- Karlsruhe Institute of Technology: Miltos Ladikas
- University of Exeter/Bristol: Richard Owen
- University of Bristol: Ruud Termeulen, Mari-Rose Kennedy
- Oslo Kommune/Skøyen Omsorg +: Bente Nodland Otto

<https://assistedlivingweb.wordpress.com/>

Assisted Living-prosjektet

[Arbeidsprogram](#) / [Nyheter](#) / [Bakgrunnsinformasjon](#) / [Partnere](#) / [English](#) ▼



Assisted Living project 25 april 2016

Om Assisted Living-prosjektet

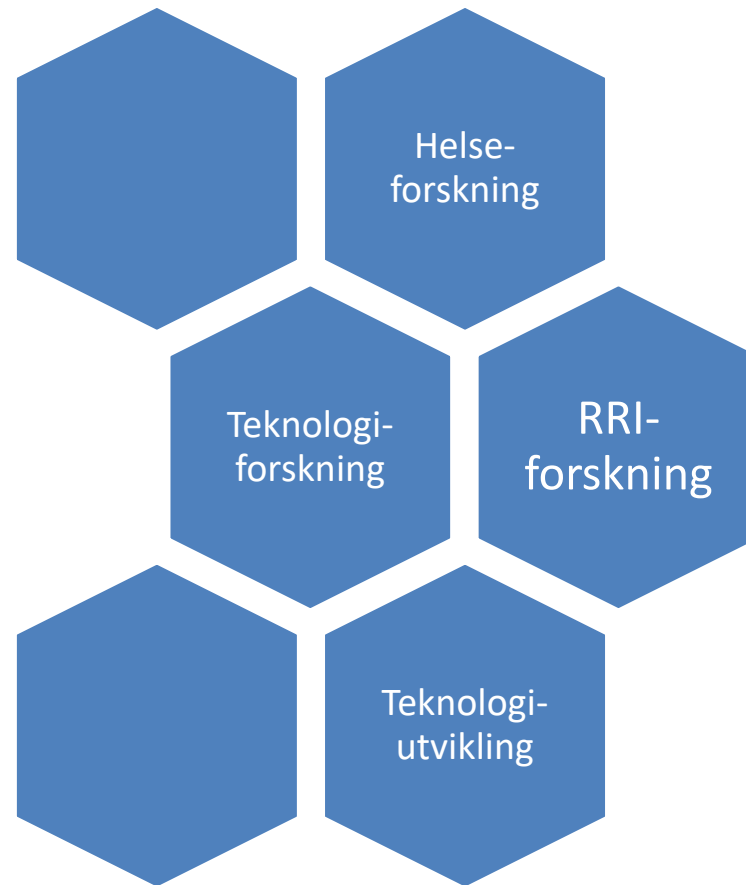
Prosjektet skal:

- bidra med **kunnskap** rettet mot bruken av velferdsteknologiske løsninger som teknologisk assistanse i hjemmet (ALT)
- **utvikle** teknologiske løsninger for en gruppe eldre med lette hukommelsesvansker, blant annet basert på behov definert av gruppen selv
- skal **fremme** ansvarlig forskning og innovasjon (RRI) innenfor feltet velferdsteknologi

Tverrfaglige arbeidspakker i prosjektet

- 1: Kartlegging:
 - av status på velferdsteknologi
 - av eldres syn på velferdsteknologi og hvordan de bruker den
- 2. Utvikling og implementering:
 - av selv-lærende hjemmeautomasjon for å assistere eldre med kognitiv svikt i å mestre sin hverdag
 - av en RRI-orientert vurderingstilnærming basert på helseteknologivurdering (HTA).
- 3. Teknologivurdering:
 - Helhetlig teknologivurdering av løsningene som utvikles og utprøves - og av selve innovasjonsprosessen i prosjektet
- 4. Fremsyn:
 - Foresight-prosess som vil utforske mulige fremtidsscenarioer for velferdsteknologiske behov og løsninger
 - Anbefalinger og retningslinjer for ansvarlig velferdsteknologisk forskning og innovasjon for alle relevante aktører (inkl. konferanse).

Tverrfaglighet i prosjektet



Vår tilnærming til RRI

Se Wickson og Forsberg 2015

For research and innovation to be responsible it needs to include:

- A specific focus on addressing significant societal needs and challenges,
- A research and development process that actively engages and responds to a range of stakeholders,
- A concerted effort to anticipate potential problems, identify alternatives, and reflect on underlying values, and
- A willingness from relevant actors to act and adapt according to 1-3.

RRI operasjonalisert som

- **Adressere samfunnsutfordringer:** Prosjektet adresserer 'en aldrende befolkning', men tar også utgangspunkt i spesifikke eldres behov og utfordringer
- **Involvere stakeholdere:** Dette gjør vi ved
 - Dialogkafeer (4 så langt): Inkludere de eldre i å reflektere rundt utfordringer i hverdagen, teknologiske løsninger på disse og erfaringer med forsknings- og utviklingsprosessen
 - ProjectSTEP-gruppen: En referansegruppe med bred deltagelse som møtes 2 ganger i år for å hjelpe oss å reflektere rundt underliggende verdier, antagelser, metodevalg og resultater i prosjektet som helhet
 - En foresight og en nasjonale velferdsteknologikonferanse



Gruppens medlemmer er:

- Bente Nodland, Skøyen Omsorg +, Oslo Kommune, Ullern bydel
- Marie Anbjørg Joten, Ullern bydel
- Knut Engedal, Nasjonal kompetansetjeneste for aldring og helse
- Bjørn Hoffman, NTNU Gjøvik/UiO, Senter for medisinsk etikk
- Toril Laberg, Ergoterapiforbundet
- Elisabeth Gulbrandsen, NFR SAMANSVAR-programmet
- Helene Aksøy, Norsk sykepleierforbund (NSF)
- Patrick Waldemar, Telenor Research
- Morten Thorgersen, Helseetaten Oslo kommune
- Une Tangen, KS
- Kari-Ann Baarlid, Nasjonalforeningen for folkehelsen
- Helge Farsund, Demensforeningen i Lørenskog
- Bent Håkon Lauritzen, Oslo Medtech
- Marianne Støren Berg, Arkitekt- og designerhøgskolen Oslo

Se her for informasjon om noen av de viktigste diskusjonene i første møte i ProjectSTEP-gruppen, og hvordan prosjektet har forholdt seg til gruppens

RRI operasjonalisert som

- **Foregripe potensielle problemer, identifisere alternativer og reflektere over underliggende verdier:**
 - Dette er gjort i dialogkafeene, i ProjectSTEP-gruppen, men også på konsortiumsmøtene.
- **Respondere/svare:**
 - Prosjektteamet reflekterer på hva vi har lært etter hvert dialogforum (møte i ProjectSTEP-gruppen, dialogkafeene, etc.)
 - Vi tilpasser forskningen og valgene rundt de teknologiske løsningene ut fra hva vi lærer

- Vi ønsker å besvare spørsmålet om hvordan RRI-prosessen fungerer i praksis og hvorvidt resultatet av en slik RRI-forskningsprosess blir bedre enn en helt vanlig F&U-prosess
 - Nå står vi midt oppi teknologiutprøving på Skøyen Omsorg + og møter på alle problemstillingene i praksis
- ... læring.....

Husk!

- Det er ingen fasit på hvordan man skal ta inn RRI i prosjekter
 - Det må tilpasses problemstillingene i det enkelte prosjekt
- Ikke tenk at RRI er noe man bare kvittere ut så enkelt som mulig
 - La dem være til inspirasjon!
- Reflekter rundt den overordnede RRI-filosofien også – hvordan gjelder den for din type forskning?

Husk

- Ikke bli forvirret overfor forskjeller i RRI-rammeverk i NFR, EU, UK, osv.
 - Det gjenspeiler samme tankegang, selv om EU har gitt en mulig operasjonalisering gjennom nøklene (som er viktige uavhengige av RRI)
- Husk at i utgangpunktet bør man ikke gjøre det bare fordi NFR/EU ber om det, men fordi det skaper forskning/innovasjon som er bedre forankret i samfunnets verdier og behov!

Takk! Ta kontakt!

Ellenmarie.forsberg@hioa.no



<http://fpol.no/nye-takter-i-europeisk-forsknings-og-innovasjonspolitik-ansvarlig-innovasjon/>

<http://fpol.no/ansvarlig-forskning-og-innovasjon-hva-betyr-det-i-praksis/>