

Com implementar la Recerca i la Innovació Responsables (RRI)?

Per una R&I més oberta i inclusiva, que respongui millor a les necessitats de la ciutadania

Rosina Malagrida, Responsable del Living Lab de Salut d'IrsiCaixa
UPC, 4 de juliol de 2017

En el marc del projecte europeu:

Amb la col·laboració de:



“Nothing about Us, Without Us”

1983: Principios de Denver



CANVI de paradigma?

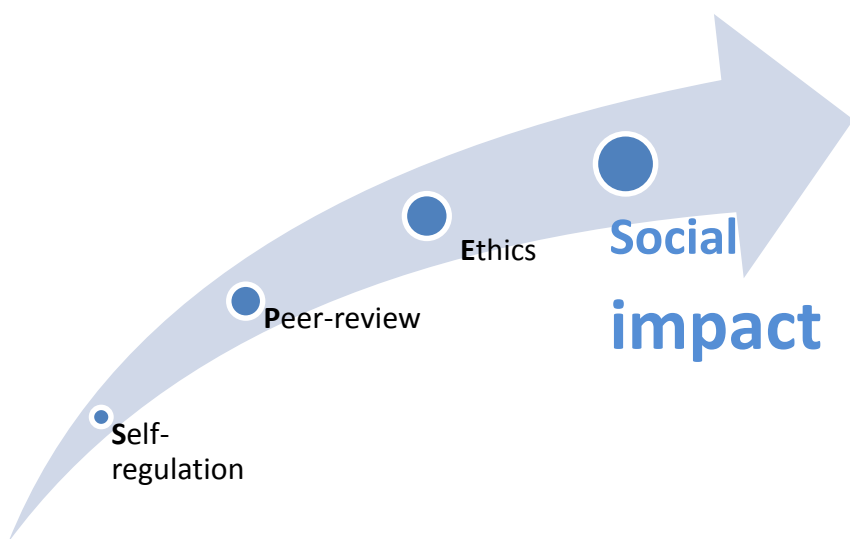


CANVI de paradigma

El s.XXI requereix d'una revolució en cadascuna de les etapes del procés d'R+D+I

Open innovation

Open science



RRI: I+D+I més oberta i inclusiva, que respongui millor a les necessitats socials



IrsiCaixa
Institut de Recerca de la Sida



 **Obra Social "la Caixa"**

 **Generalitat de Catalunya
Departament de Salut**

IrsiCaixa
Institut de Recerca de la Sida

Living Lab de Salut
Promovem la salut per i amb la societat

Comunicació Científica



Educació - Divulgació



Participació en governança & en R+D+I

Responsible Research & Innovation (RRI):

- **Deliberació:** Comité Assesor Comunitari, Programes investigació, Mapes d'opinió
- **Col·laboració:** Investigació Participativa Comunitària

Formació & Assessorament Investigació



Índex

- 1. Alguns casos pràctics cap a una R+D+I més oberta i inclusiva**
- 2. Què tenen en comú? Característiques de l'RRI**
- 3. Eines per aplicar l'RRI: L'RRI Toolkit**
- 4. Conclusions**

1. Alguns casos pràctics cap a una R+D+I més oberta i inclusiva



Open innovation...

1/4 Value Sensitive Design

Necessitat d'ANTICIPAR per alinear la innovació amb els valors socials



- S'estudien els valors dels diferents actors
- Canvis en el disseny i disseny de polítiques que poden ajudar a paliar controvèrsies
- Els aerogeneradors reponen a diferents valors:
 - Protecció contra inundacions
 - Permeten el pas de mareas
 - Polítiques amb beneficis socials

Values	Embedding in design	
	Institutional	Technological
Cost	subsidies in support of innovation	grid innovations
Sustainability	priority for offshore wind in spatial planning of North Sea	'cradle-to-cradle' reuse of materials
Reduction CO ₂	emission trading system in Europe	power2gas
Employment	stimulate public-private partnerships	construction of grid infrastructure
Competitive power of Dutch Industry	finance R&D	Multifunctional industrial use of wind farms
Protection of environment	allocation of conservation areas	gravity based foundations for turbines

2/4 Ferran Adrià: investiga l'eficiència de la creativitat

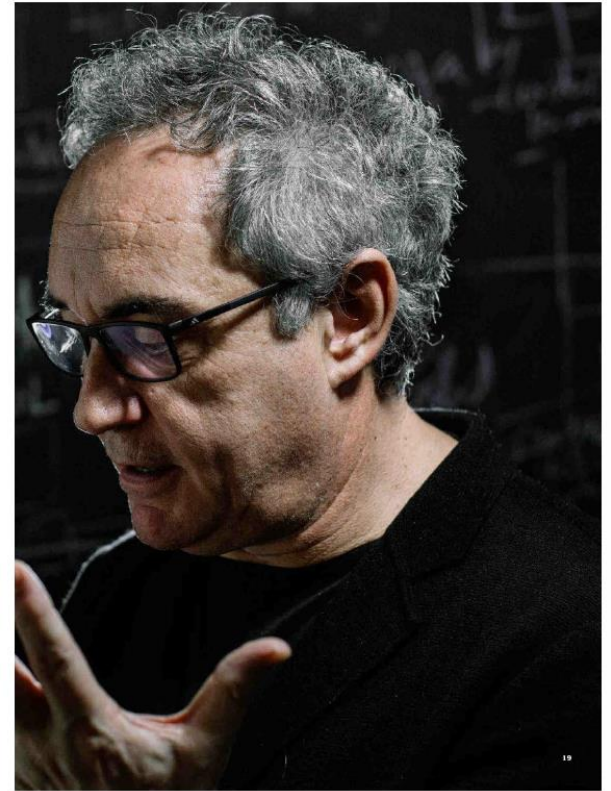
“El Bulli invertia un 22% dels seus recursos en I+D+I”

“Podem comprar talent i creativitat, pero podem comprar l'eficiència?”

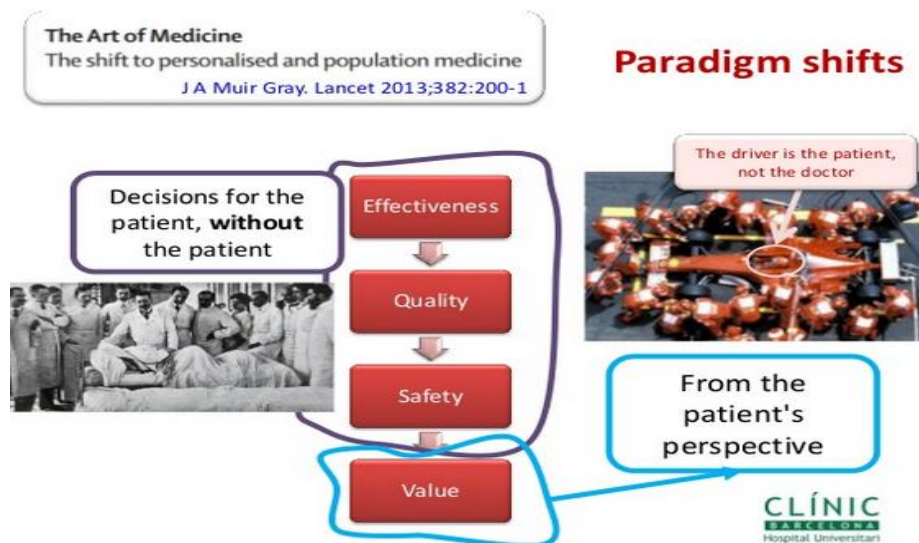
“Les empreses mantenen els seus departaments d'R+D **com a búnkers tancats** al reste de l'organització”.

“La creativitat ha de connectar tota l'organització i no limitar-se a uns **senyors que es tanquen** a crear sistemes i productes que moltes vegades la companyia no **necessita**”.

“Cal crear sistemes que **facilitin la comunicació i les sinergies** i on la innovació nutreixi tots els departaments”.



3/4 X-Patient, Patient innovation



“Collecting data on patient experience is not enough, they must help to improve care (quality, service design, patient empowerment)”

Dr. Joan Escarribill, Hospital Clínic, Feb., 2016

4/4 B-corporation

Brought to you by
the community of

Certified



Corporations



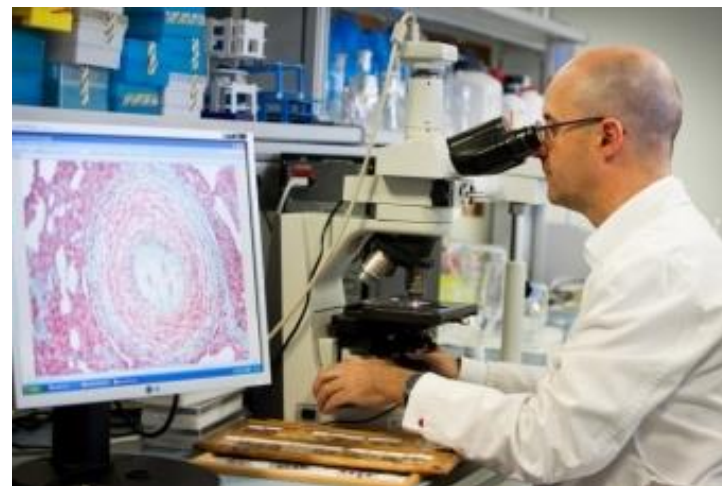
WE have a DREAM.

What are B Corps?

B Corps are a new type of company that uses the power of business to solve social and environmental problems. Watch our video!

[Read More »](#)

- **Negocis per solucionar problemes socials i ambientals.**
- **Polítiques:** proveïdors locals, polítiques de personal...
- **Mètriques d'impacte:** formació personal, consums, Serveis per a entitats de la societat civil, ...
- **Proveïdors:** qüestionari d'avaluació de proveïdors, política de selecció ...
- Fer constar a la **missió i visió** aquests criteris de responsabilitat.



*MANREMYC's commitment is to be able not only to get **certified** by a third party but also to start a leaning process in **how to improve our business** practices was our motivation. We want to evaluate and improve our multi-stakeholder business model to make N.R available, **accessible, affordable and accepted** by deprived communities. P.J.Cardona, CEO*

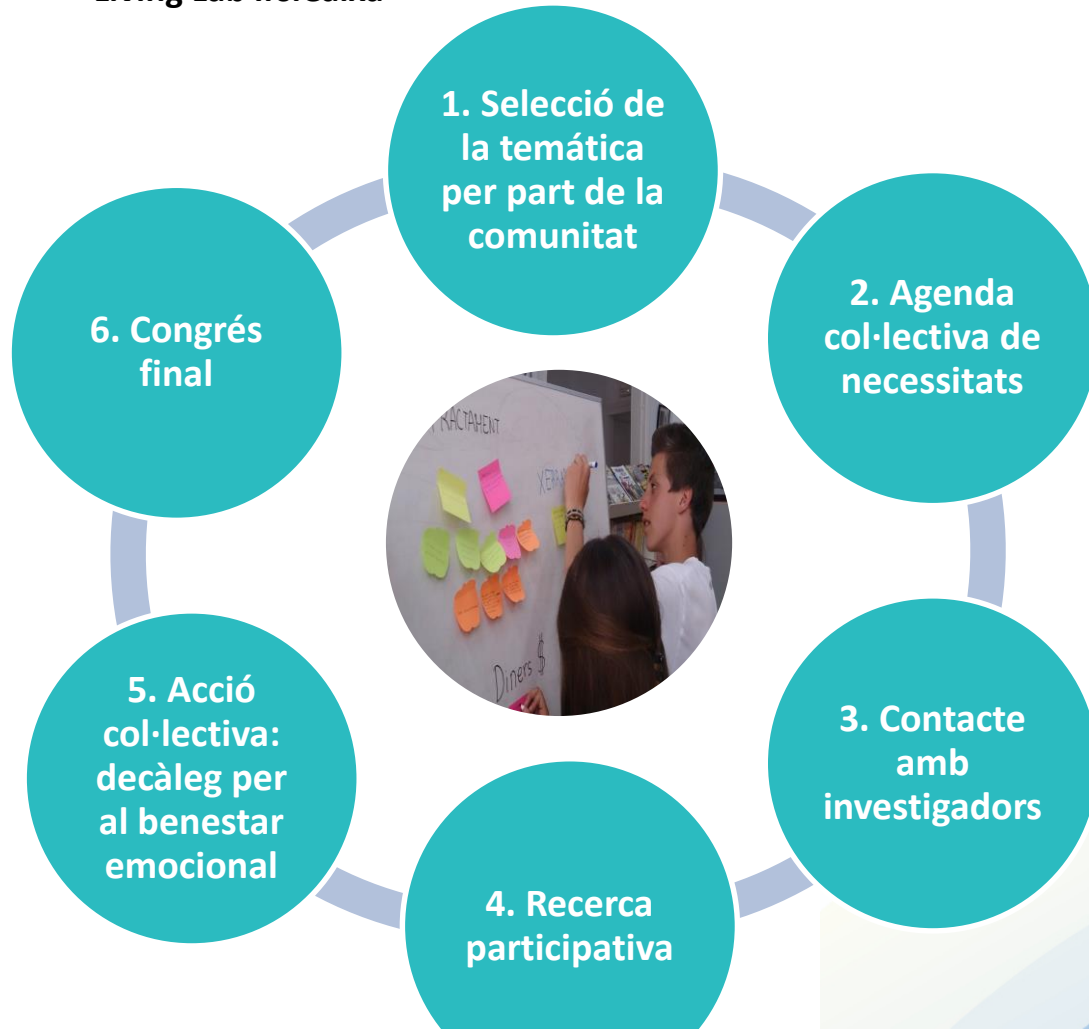


Open Science...

1/5 Intervencions comunitàries per al canvi transformatiu

Sana Ment:

Recerca i governança participatives
Living Lab IrsiCaixa



+450 actors involucrats

- Estudiants de secundària
- Estudiants universitaris
- Investigadors i professionals assistencials
- Gestors de polítiques públiques
- Entitats de la Societat Civil

- Legitimitat
- Capacitació d'actors
- Reflexió
- Cultura d'innovació
- Solucions adaptades a les necessitats dels diferents actors

Model de Science Shop



2/5 Altres exemples de participació en recerca

Science Shops

- Normalment ubicats en universitats
- Preguntes de recerca proposades per CSOs
- Estudiants duen a terme la recerca
- 40 anys de tradició a Europa i a nivell global
- Promouen la cultura de recerca
- Promouen el canvi transformatiu

Citizen Science

- Projectes de recerca que conviden la ciutadania a aportar dades
- Recerca estructurada on el balanç entre objectius de Recerca, educació, socials i polítics varia segons els projectes.

Do it yourself

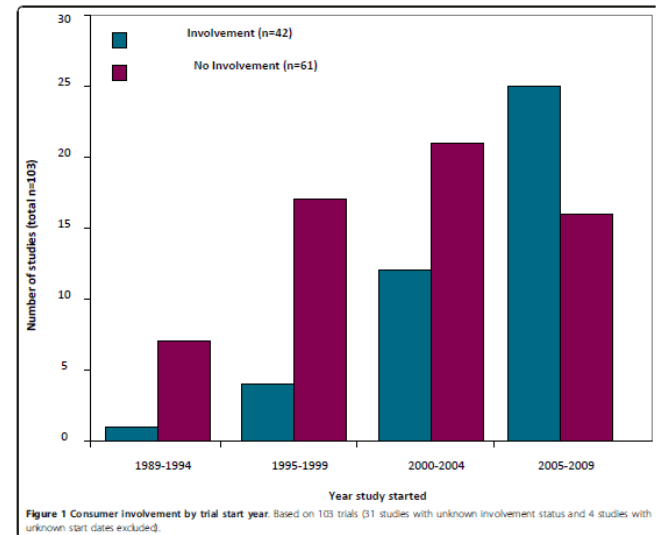


3/5 Comitès Assesors Comunitaris i presència de ciutadans en altres comitès

Pacients: tradicionalment objectes de recerca i beneficiaris dels resultats



Comitè Assessor Comunitari d'IrsiCaixa



C.L. Vale, et al. Trials 2012

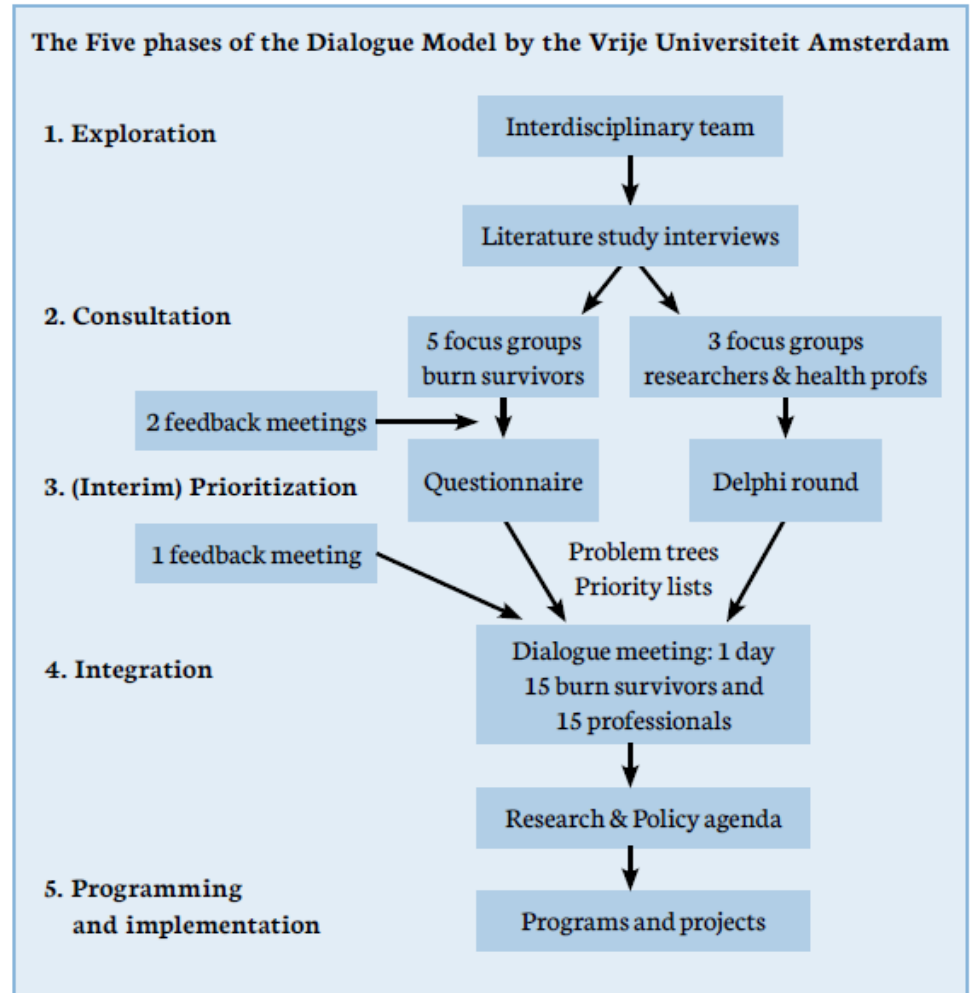
4/5 Participació en agendes de recerca

Burhn:

**Agenda de Recerca en Cremades
VU University of Amsterdam**



La picor s'afegeix a l'agenda de recerca



4/5 Participació en agendes de recerca

Co-ResponsaVIHlidad:

Agenda de Recerca en Prevenció del VIH
Living Lab IrsiCaixa

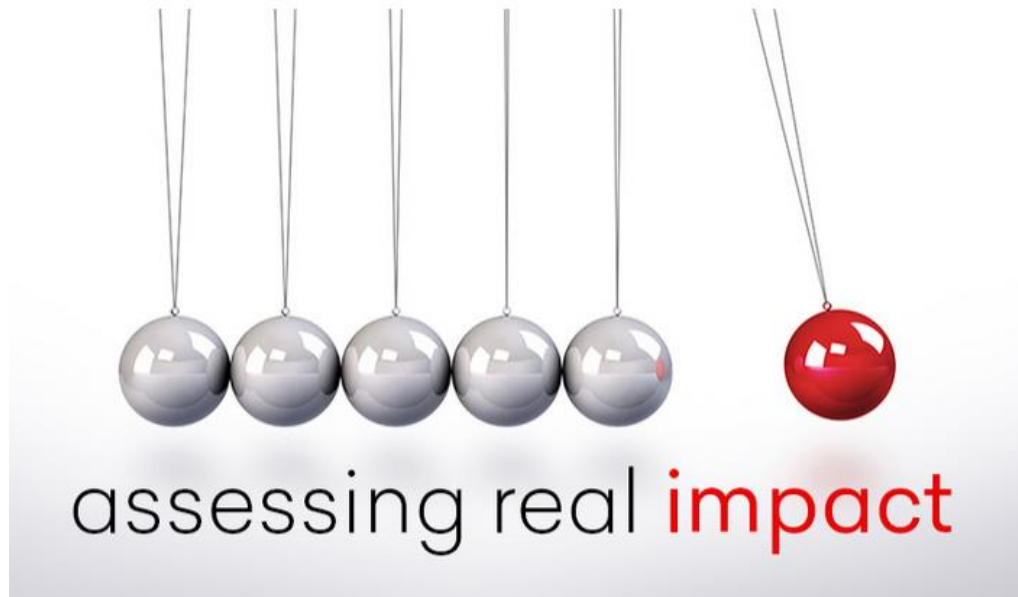


+660 actors involucrats

- Estudiants de secundària
- Estudiants de màster
- Investigadors
- Professionals assistencials
- Gestors de polítiques públiques
- Entitats de la Societat Civil

- Legitimitat
- Capacitació d'actors
- Cultura d'innovació
- Transferència de coneixement
- Necessitats no cubertes

5/5 Avaluació: Debat internacional sobre el futur de l'R+D+I



Started 2013



www.scienceintransition.nl

La ciència requereix una reforma:

- Qualitat es mesura amb bibliometria
- **Rellevància social:** infravalorada. Preguntes de baixa prioritat
- L'avaluació i la qualitat es reconsideren:
 - **Eliminar quantitat** com a categorí per avaluar
 - **Decisions transparents**
 - **Tenir en compte interessos dels diferents actors socials**



January, 2014

Biomedical research: increasing value, reducing waste



Of 1575 reports about cancer prognostic markers others (table). Through consideration of these drivers, Published Online

2012

San Francisco
DORA
Declaration on Research Assessment



Impuls polític...

1/4 RRI: des de la CE



El S.XXI requereix una revolució a cadascuna de les etapes del procés d'R+D+I

La ciència

està canviant cada aspecte del mètode científic perquè sigui
més oberta, inclusiva i interdisciplinària

The European Charter & Code for Researchers

In 2005, the European Commission adopted a European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers. These two documents, addressed to researchers as well as research employers and funders in both the public and private sectors, are key elements in the EU's policy to boost researchers' careers.

882 organisations have endorsed the Charter & Code principles.

Research careers in Europe are fragmented at local, regional, national or sectoral level, not allowing Europe to make the most of its scientific potential.

(CIBERBBN) Biomedical Research Networking Center in Bioengineering, Biomaterials and Nanomedicine [↗](#) [📄](#)

(CIBERDEM) Biomedical Research Centre in Diabetes and Associated Metabolic Disorders [↗](#) [📄](#)

(CIBEREHD) Networked Biomedical Research Centre for Hepatic and Digestive Diseases [↗](#) [📄](#)

(CIBERER) Centre for Biomedical Research on Rare Diseases [↗](#) [📄](#)

(CIBERSAM) Biomedical Network Research Centre in Mental Health [↗](#) [📄](#)

(CRESIB) Barcelona Centre for International Health Research [📄](#)

ALBA Synchrotron Light Laboratory [↗](#) [📄](#)

Achucarro Basque Centre for Neuroscience [↗](#) [📄](#)

Agencia Andaluza del Conocimiento [📄](#)

Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC) [📄](#)

Agency for Management of University and Research Grants (AGAUR) [📄](#)

Agrotecnio Center [📄](#)

Aragon Health Sciences Institute (IACS) [📄](#)

BC3 Basque Centre for Climate Change [📄](#)

BCMaterials [📄](#)

Barcelona Digital Centro Tecnológico [📄](#)

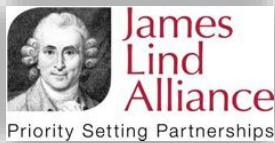
Barcelona Supercomputing Center [📄](#)

Impuls polític

3/4 RRI: RFO que la fomenten com a “Cross cutting issue”



Science
with and for Society



4/4 Vinnova: Transdisciplinarietat enfocada a reptes socials

Initiation

Develop idea
and consortium
(8-9 months)

Collaboration

Development and
integration,
restricted tests,
user involvement
(2.5 years)

Implementation

Full-scale tests in
real environments,
user involvement
(2 years)

“Vinnova promotes **sustainable growth** by funding needs-driven **research** and stimulating **collaborations** between companies, universities, research institutes and the public sector”

- **Agencia d'innovació de Suècia**
- **Canvi d'estrategia: El 2011 llancen nova convocatòria**
- **3Ps: profit but also people and planet**
- **Transdisciplinarietat adreçada a reptes socials**
- **Propuestas basades en reptes socials i amb finançament en tres etapes (treball iteratiu, guiat per avaluació continuada)**



School for everyone, from the first day in the new country

- Many students with a foreign background are not eligible for higher education and are therefore alienated from society
- Develop and test multi-lingual e-learning solution for immigrant students that yet do not master the Swedish language
- Technology providers, publishers, research institutes, universities, municipalities, schools, authorities



CHALLENGE 2015-2017
Information Society
STAGE
✓✓□



Operator of the future

- Low productivity, high salaries, poor ergonomics and difficulties to attract younger talents
- Powerful, mobile, IT-tools and processes developed for the operator of the future, today
- Companies from three industries (mining, vehicles, steel), consultancy firms, technical college, software firms



CHALLENGE 2012-201
Competitive Industries
STAGE
✓✓□



C/O City

- Secure a sustainable eco system in concentrated cities (urbanization)
- Ecosystem services for a sustainable city planning to benefit the citizens' wellbeing and which fulfill the city's demand for clean water, clean air and reduced environmental influences
- Municipalities, architects, building developers, academia, non-profit organizations and consultants

CHALLENGE 2015-2017
Sustainable Attractive Cities
STAGE
✓✓✓



2. Què tenen en comú?

Característiques de l'RRI

1/5 Voluntat de respondre a reptes socials i de sostenibilitat

Big societal challenges

climate change

Sustainable Agriculture
- RESOURCES

Open
Safe
Secure

Inclusive and secure societies

Global Health

Water

Energy

Environment

Food

Education

Security

Poverty

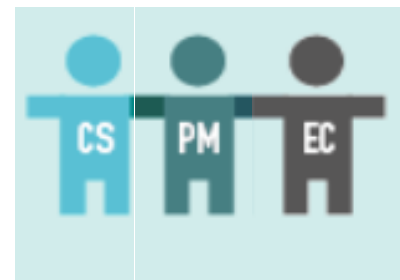
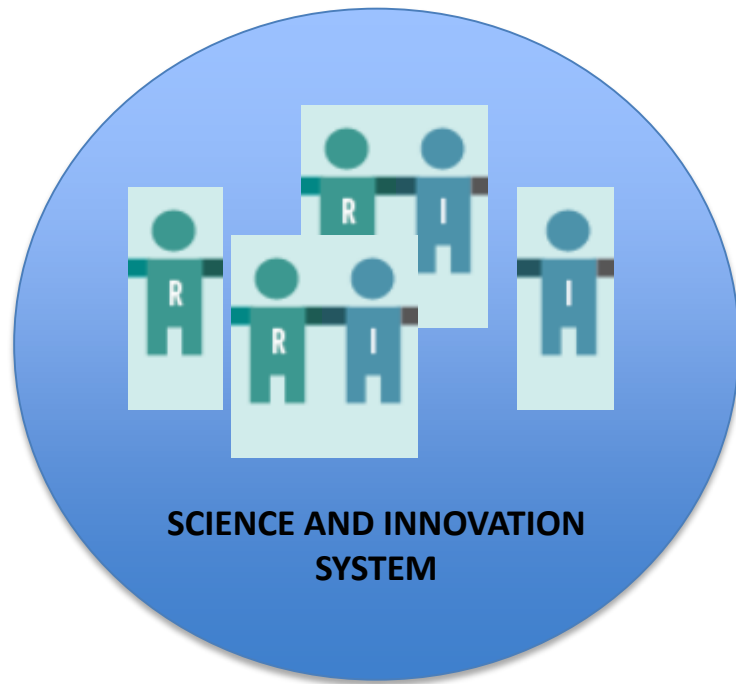
healthy ageing

clean energy

Global poverty

Diferents solucions, inter i trans disciplinàries, locals i globals

2/5 Voluntat de replantejar la relació entre la ciència i els diferents actors socials



Informació, divulgació i màrketing

→ Fer R+D+I més comprensible i fomentar legitimitat i consum



SISTEMA DE CIENCIA E INNOVACIÓN



Nutrition Typical values (based on 100g)			
Energy kJ	per 100g	per 1/4 pack	% adult GD*
Protein	10.07	2.52	4.02%
Carbohydrate	8.45	2.11	3.37%
of which sugars	20.69	5.17	8.34%
of which starch	1.89	0.47	0.76%
of which salubres	18.80	4.70	7.58%
mono-unsaturates	13.79	3.45	5.53%
polyunsaturates	5.99	1.49	2.39%
Fibre	1.54	0.39	0.62%
SALT	0.99	0.25	0.40%
of which sodium	0.29	0.07	0.11%

*GDAs = Adult Guideline Daily Amounts are based on a diet of 2500 kcal (10400 kJ) per day. GDAs are guidelines and personal requirements vary depending on age, gender, weight and activity.



Science & society

EL PAÍS



la xarxa



el Periódico

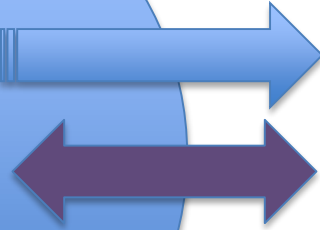
DIARIO MEDICO

Informació, divulgació: diàleg

→ Encara amb un focus en que sigui comprensible



SISTEMA DE CIENCIA E
INNOVACIÓN



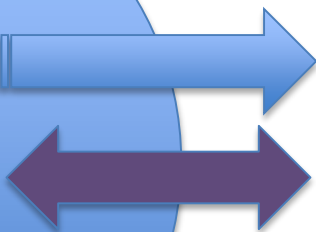
DEFICIT MODEL



NECESSITAT DE CANVI TRANSFORMATIU



**SISTEMA DE CIENCIA E
INNOVACIÓN**



?



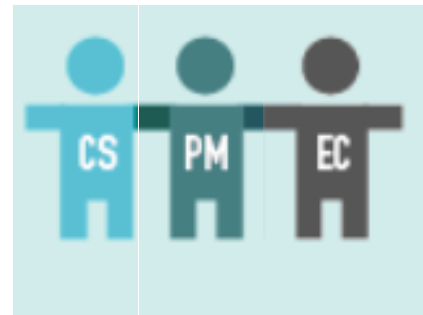


**SISTEMA DE CIENCIA E
INNOVACIÓN**





**SISTEMA DE CIENCIA E
INNOVACIÓN**

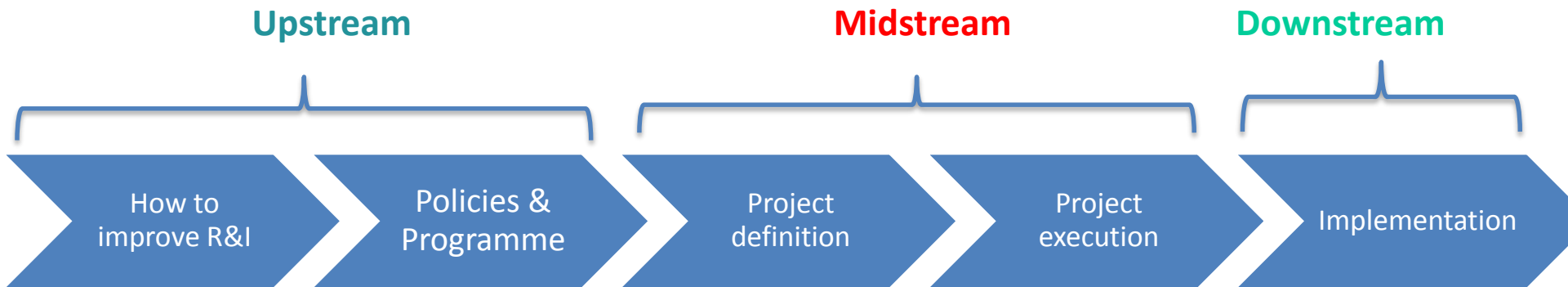


En procés d'R+D+I
**RESPONSABILITAT
COMPARTIDA**

FROM
PUBLISHING AS FAST AS
POSSIBLE
TO
SHARING KNOWLEDGE &
DECISIONS AS FAST AS
POSSIBLE

FROM
PUBLIC ENGAGEMENT
TO
PUBLICLY ENGAGED
SCIENCE

3/5 Participación d'actors que operen en diferents fases



WHAT?

Gestores de políticas:

Financiación
Evaluación
Assesors

HOW?

Científics i enginyers:

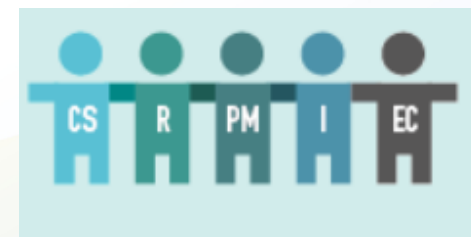
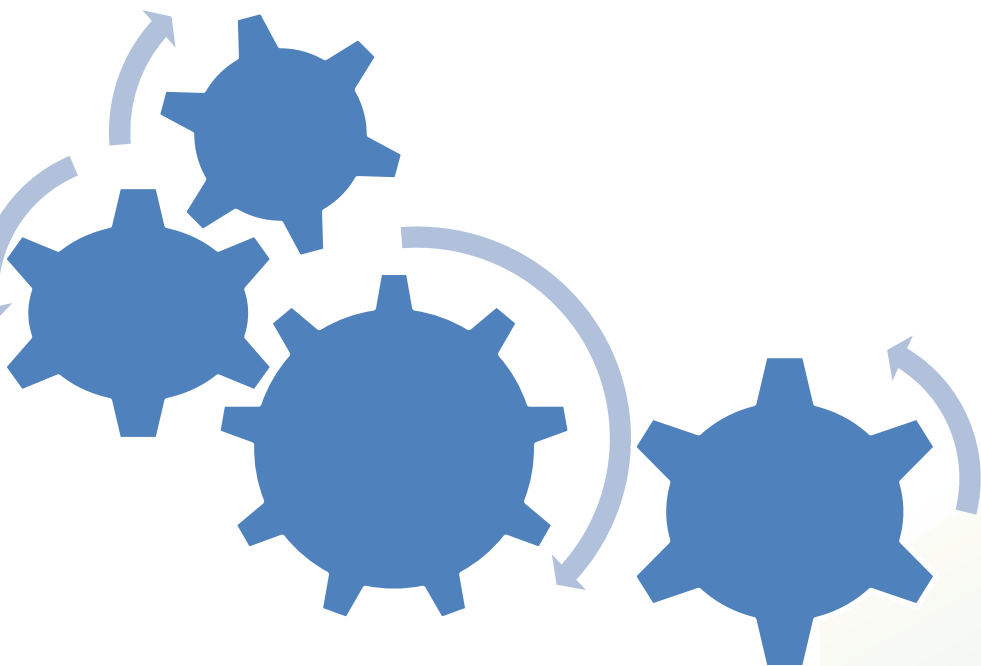
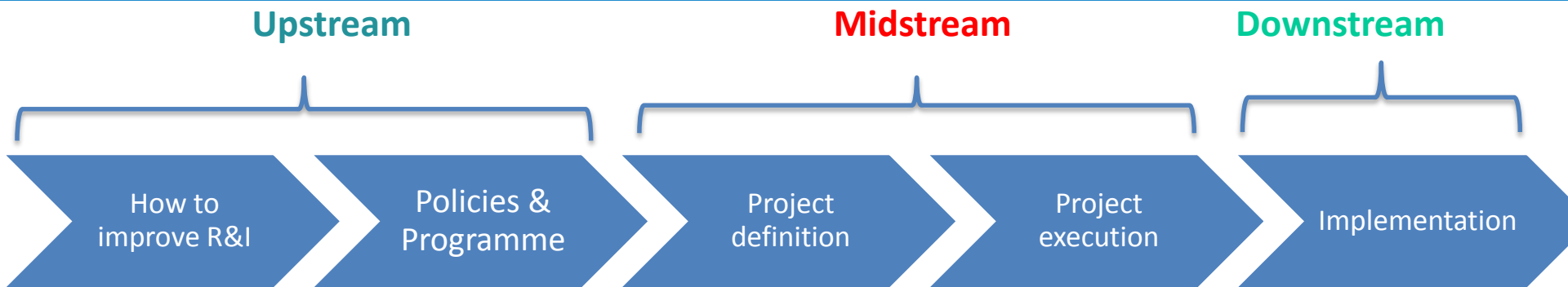
Codis de conducta
Comitès de revisió

WHETHER TO ADOPT?

Consumidors i agències reguladores:

Tests seguretat/eficàcia
Mecanismes del mercat
Litigacions

4/5 RRI: un procés dinàmic i iteratiu



Actors amb interès

4/5 RRI: un procés dinàmic i iteratiu

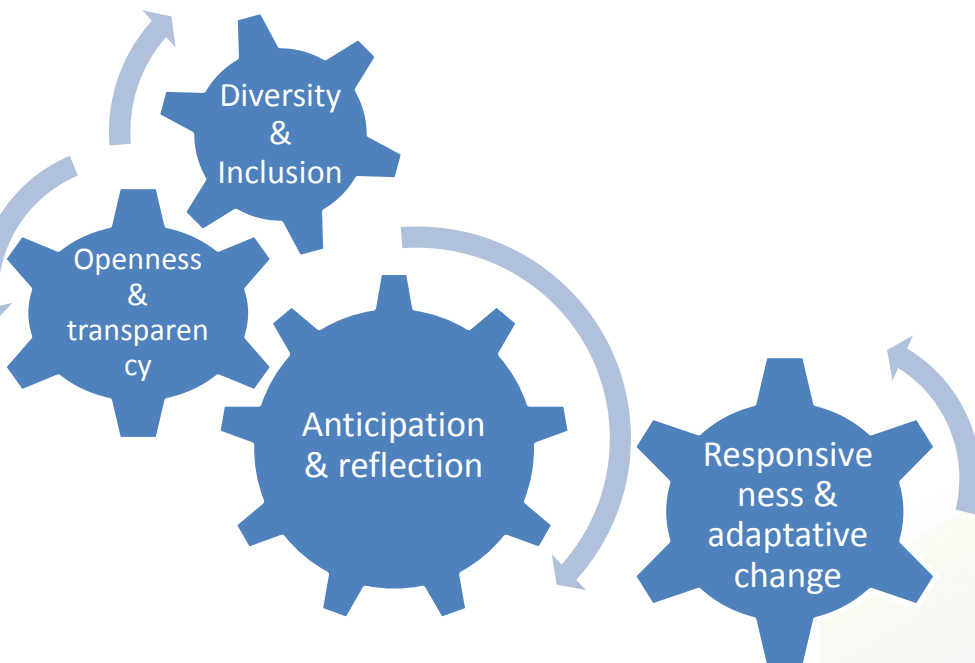
How to improve R&I

Policies & Programme

Project definition

Project execution

Implementation



5/5 Mètodes de deliberació col·laborativa

Com millorar la I+D+i

Polítiques & Programes

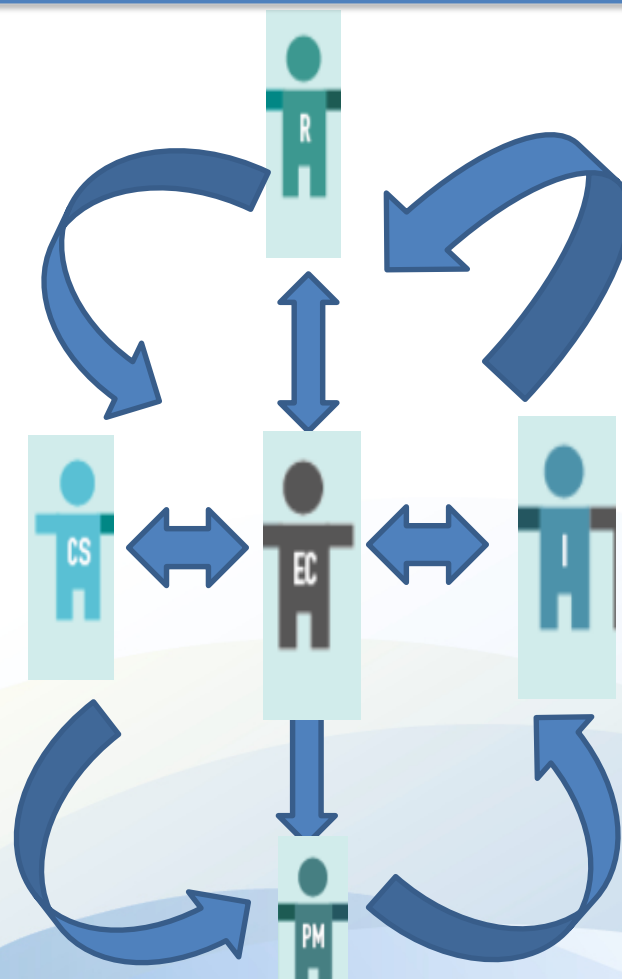
Definició de projectes

Execució de projectes

Implementació



SISTEMA DE CIÈNCIA I INNOVACIÓ



FROM
TECHNOLOGY TRANSFER
TO
KNOWLEDGE
MOBILIZATION



Definició d'RRI



RRI Tools:
towards RRI in action
www.rri-tools.eu

RRI Tools. Fostering Responsible Research and Innovation
FP7-project RRI Tools will develop a Training and Dissemination Toolkit for fostering Responsible Research and Innovation. The EC has identified seven so-called Grand Challenges society is facing today, and research and innovation are expected to significantly contribute to meeting these challenges. However, research and innovation practices themselves require modifications, for instance because they often fail to address societal needs, have open implementation gaps, or spur controversy. Thus, the EC has put forward the notion of Responsible Research and Innovation, or RRI, to simultaneously address both society's Grand Challenges and shortcomings existing in research and innovation practices. This policy brief provides a working definition of RRI and reports on the state of the art in responsible research and innovation.

RRI Tools – background and aims
Science and technology have proven to be transformative forces throughout history. Today they have gained humans the capacity to alter ecosystems and the Earth's climate and even to manipulate the building blocks of life itself. Research and innovation have changed our world and our lives, and will continue to do so. However parallel to the large positive impact on human welfare and wellbeing that science and technology have had and probably will have, they also create new risks and ethical dilemmas, do not always succeed in solving the problems they are meant to, and sometimes spur controversy.
Over the last few decades many experiments have been done that aimed at decreasing the distance between science and society. For instance, in various public engagement exercises, the public has been involved in discussions and policy decisions regarding science; collaborations between scientists, ethicists and social scientists have been set up; experiments have been done with open source research data, user-driven innovation, citizen science, and much more besides.
These efforts have led to a European-wide approach in Horizon 2020 called Responsible Research and Innovation. RRI seeks to bring issues related to research and innovation into the open, to anticipate the consequences of research and innovation, and to involve society in discussing how science and technology can help create the kind of world and the kind of society we want for generations to come.
In three years time RRI Tools will develop a Training and Dissemination Toolkit concerning responsible research and innovation and put it to use through a Community of Practice. The toolkit will consist of a set of tools intended for a variety of users: raising awareness about RRI and raising, implementing and disseminating RRI in Europe. A multi-stakeholder consortium with 26 partners operating in 10 European countries will develop and continuously optimize the toolkit. RRI Tools will advance policy-makers, researchers, RRI innovative industries, civil society organizations, CSOs, and science educators at national and regional levels, spreading RRI throughout society.

FACTS ON RRI TOOLS - Fostering Responsible Research and Innovation
GOAL
Propagating 'responsibility in the governance of science and technology, public and private, by making and disseminating a set of Tools for policy-makers, researchers, innovative industries, CSOs and educators.'
CONTRACTING
'la Caixa' Foundation
FINANCING
25 institutions, active in 30 European countries
DURATION
3 years (01/2014-12/2016)
PROJECT
40 persons €

RRI Tools working definition
Following a survey of the relevant literature and consultation with experts, RRI has been provisionally defined as follows:
Responsible Research and Innovation is a dynamic, iterative process by which all stakeholders involved in the RRI practice become mutually responsive and share responsibility regarding both the outcomes and process requirements.
These proposed outcome and process requirements will be elaborated below, but in short we can say that:
1. RRI's aim is to create a society in which research and innovation practices settle towards sustainable, ethically acceptable, and socially desirable outcomes, and
2. RRI does so in such a way that the responsibility for our future is shared by all people and institutions affected by and involved in research and innovation practices.

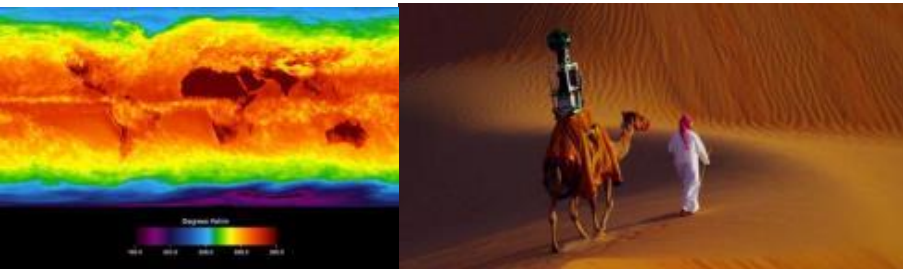
"Responsible Research and Innovation is a transparent, interactive process

...by which societal actors and innovators become mutually responsive to each other

...with a view to the (ethical) acceptability, sustainability, and societal desirability of the innovation process and its marketable products

...(in order to allow a proper embedding of scientific and technological advances in our society)"

Von Schomberg definition, 2011



Agendes polítiques d'RRI a H2020: enfocament holístic



Science Education

Engagement

Gender Equality

Ethics

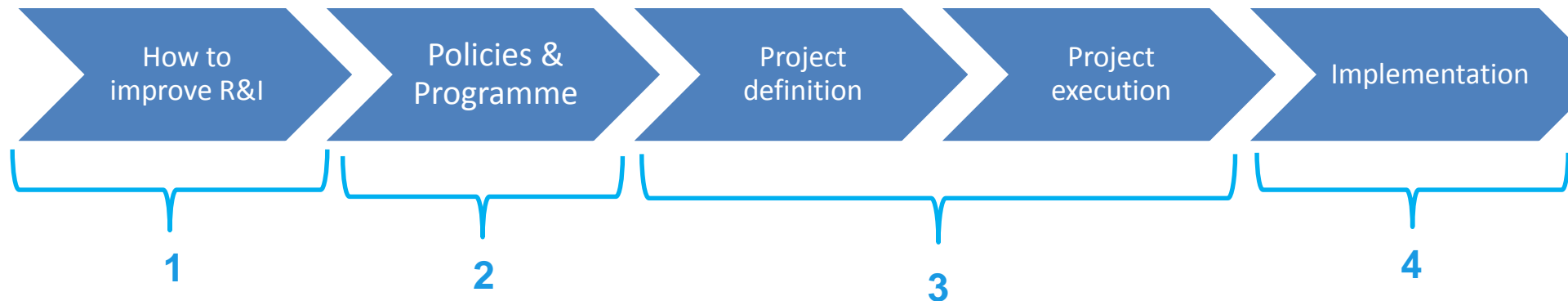
Open Access

normative

3. Eines per aplicar l'RRI

El RRI Toolkit: www.rri-tools.eu

Recursos para implementar la RRI



Què m'ofereix l'RRI Toolkit?

Alguns exemples

El RRI Toolkit

Tipus de recursos disponibles



Biblioteca

Documents, videos, presentations, blogs to get informed on RRI and key issues

271



Projectos

Get to know other projects already addressing RRI values

56



Pràcticas inspiradoras

Good practices in RRI. Want to follow their lead?

38



Herramientas

Access to different instruments to implement RRI and its policy agendas

104

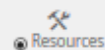
- + Eina per a l'Auto-Reflexió
- + Comunitat de pràctica (+1000)
- + Eines per a formació i difusió
- + Guies per a la implementació

Toolkit /

RRI Toolkit

Built with and for the Community of Practice

Select between...



I am looking for...

SEARCH

Inspiring Practice ✕

Business & Industry ✕

[UPLOAD A RESOURCE](#)

Filter resources by:

Type:

- Inspiring Practice
- Library Element
- Project
- Tool

Useful for:

- Business & Industry
- Civil Society Organizations
- Education Community
- Policy Makers
- Research Community

Address:

- Ethics
- Gender Equality
- Governance
- Open Access
- Public Engagement
- Science Education

[more filters](#)

By expertise required:

- Beginner
- Master
- Practitioner

By language:

By category:

Inspiring Practice

- Organization
- Other
- Programme
- Project
- Tool

showing 12 results

Sort by: [Most recent](#)

Inspiring Practice

Knowledge for Climate (Kennis voor Klimaat)

Inspiring Practice

EuroBioAct, European Bioethics in Action

Inspiring Practice

UNI AKTIV

Inspiring Practice

German civil platform Forschungswende

Inspiring Practice

Citizens create knowledge (BÜRGER schaffen WISSEN, GEWISS)

Inspiring Practice

SoScience

Inspiring Practice

The Blueprint for Change Programme

Inspiring Practice

Inno+

Inspiring Practice

Homoresponsabilis in the globalized world

Recursos per implementar l'RRI



2

Marcos / Manifiestos / Documentos oficiales / Premios



Descripción de estructuras



Programas piloto, guías, planes para cambio estructural en las agendas políticas



(Gender equality plans, PE plans, Research Integrity Codes of Conduct, Policies on open Access, Plans for structural change...)

Métodos para definir agendas de investigación

Patient participation as dialogue: setting research agendas

Tineke A. Abma Bc Msc PhD* and Jacqueline E. W. Broerse Msc PhD†
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†Athena Institute, VU University, Amsterdam, The Netherlands



The gender-sensitive research cycle (yellowwindow.be)

Guías para definir convocatorias de financiación

Indicadores & herramientas de evaluación

Recursos per implementar l'RRI

How to improve R&I

Policies & programme

Project definition

Project execution

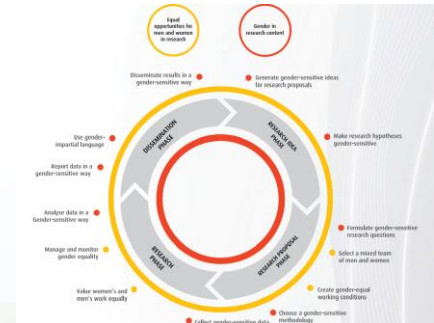
Implementation

3 Estructures per a l'avaluació i la supervisió de l'R+D+i: Comitès d'Ètica, Comitès Assesors Comunitaris...



Stakeholders
Acting Together
On the ethical
impact assessment
of Research and
Innovation

ABOUT SATORI | NEWS & MEDIA | RESULTS | EVENTS



COMPREHENSIVE
EMPIRICAL
ANALYSIS OF
ETHICS PRACTICES
IN THE EU

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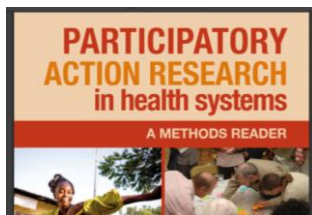
- 3 **D'altres estructures & mètodes per a la co-creació:**
Community Based Participatory Research, Open Innovation, citizen Science...



Living Knowledge
The International Science Shop Network



European Network of Living Labs



Recursos per implementar l'RRI

How to improve R&I

Policies & programme

Project definition

Project execution

Implementation

3



Evidence based policy making

Recursos per implementar l'RRI

How to improve R&I

Policies & programme

Project definition

Project execution

Implementation

+ Recursos per a la formació:
programes, recomanacions i recursos



4. Conclusions

Una R+D+I més eficaç i de més impacte

1/8 Les necessitats en R+D+I van lligades als valors



**SMART METERS
DANGER**
Microwave Radiations



Algunes innovacions tenen conseqüències no esperades i són controvertides

2/8 El model de civilització ve definit en gran mesura per l'R+D+I

Falten Canals per CO-CREAR: Quina innovació volem? Quina recerca necessitem?



A collage of health-related images. It includes the book cover for 'The Genotype Diet' by Dr. Adamo, a book titled 'HEALTHY AGING', and a website for 'mycellf DNA FITNESS' and 'mycellf DNA NUTRITION'. The website features a bar chart and the text 'See your gene' and 'Multi-Pack Special: Save \$10'. Below the collage is a syringe icon and the text '¿SÍ o NO?'.



EPSRC

Engineering and Physical Sciences
Research Council

Anticipate, reflect, engage and act (AREA)

4/8 En RRI: PARTICIPACIÓ \neq “delegated power”

LADDER OF PARTICIPATION



Level of participation	Examples of methods
Delegated power	Citizens decide
Collaboration	Participatory research, open innovation
Consultation	Evidence based policy making, feedback for research lines of their interest...
Public Contribution	Citizen Science, communication campaigns run by the community, crowdfunding...
Informing	Communication and traditional education campaigns run by experts



REFERENDUM

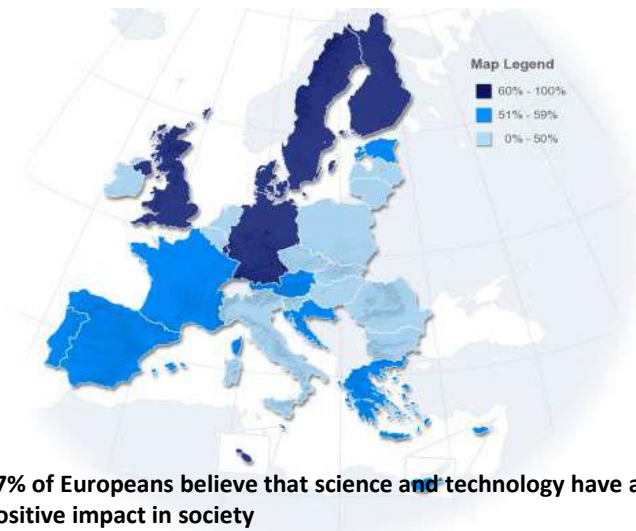


5/8 Hi ha demanda social

DK	72%
SE	69%
DE	66%
MT	65%
UK	64%
LU	63%
FI	62%
EL	59%
FR	58%
CY	57%
EU	55%
EE	55%
AT	55%
ES	53%
PT	51%
IE	50%
BG	50%
BE	49%
PL	48%
NL	47%
LT	47%
IT	47%
CZ	46%
LV	45%
HU	44%
SK	43%
RO	43%
SI	40%
HR	57%

What is the level of involvement citizens should have when it comes to decisions made about science and technology?

Answer: Public dialogue is required (Req: 55% - Not Req: 37%)



77% of Europeans believe that science and technology have a positive impact in society

62% agree that science makes our way of life change too fast

55% think that public dialogue is required when it comes to decisions made about science and technology

“Nothing about Us, Without Us”



1983: Principios de Denver

6/8 Oportunitat per donar millor resposta a les veus silencioses....

The 10/90 gap

Most drug research is for the wealthiest people on earth

More than

\$70bn

is spent each year in the world on reserach and development of new drugs

Less than

10%

of this is spent on

90%

of the world's health problems

Newdrugs are needed for: sleeping sickness, dengue fever, malaria, schistosomiasis, tuberculosis, chagas disease, lymphatic filariasis, leishmaniasis, leprosy, onchocerciasis.

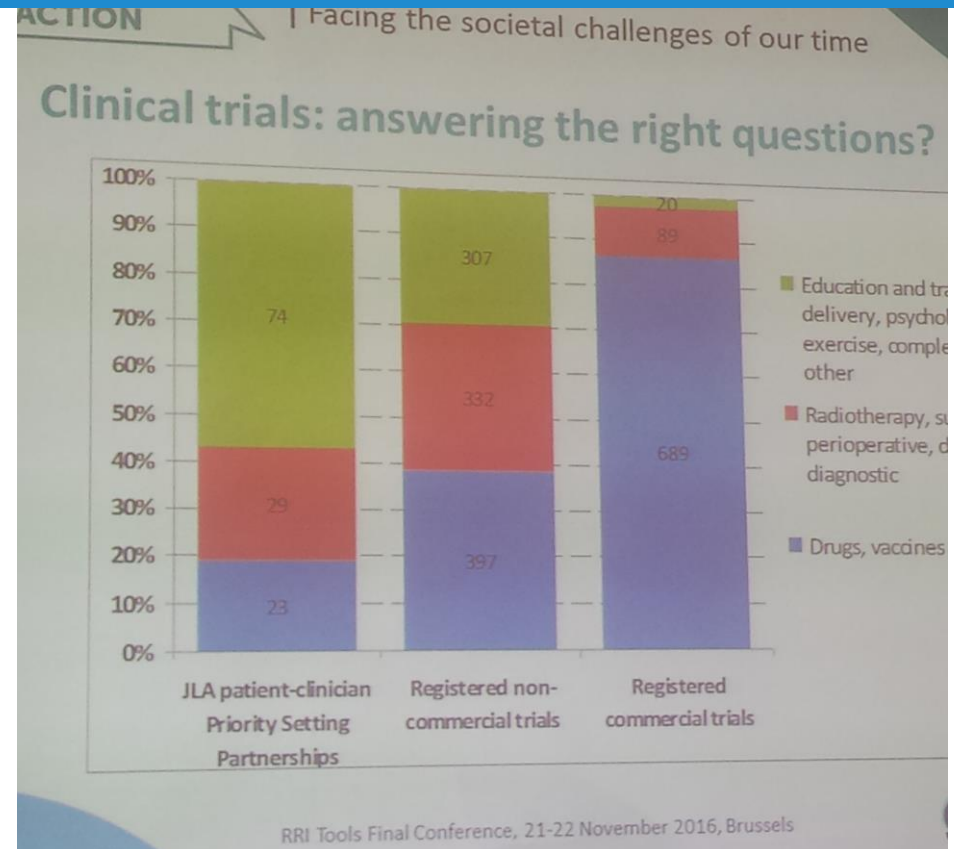


The Guardian. Special Report. Aids.

7/8 Ja hi ha iniciatives que donen veu a aquestes veus silencioses



Pacientes en órganos de decisión



Education and training, service delivery, psychological, physical exercise, complementary, diet...

Radiotherapy, surgery and perioperative, devices and diagnostic

Drugs, vaccines and biologicals

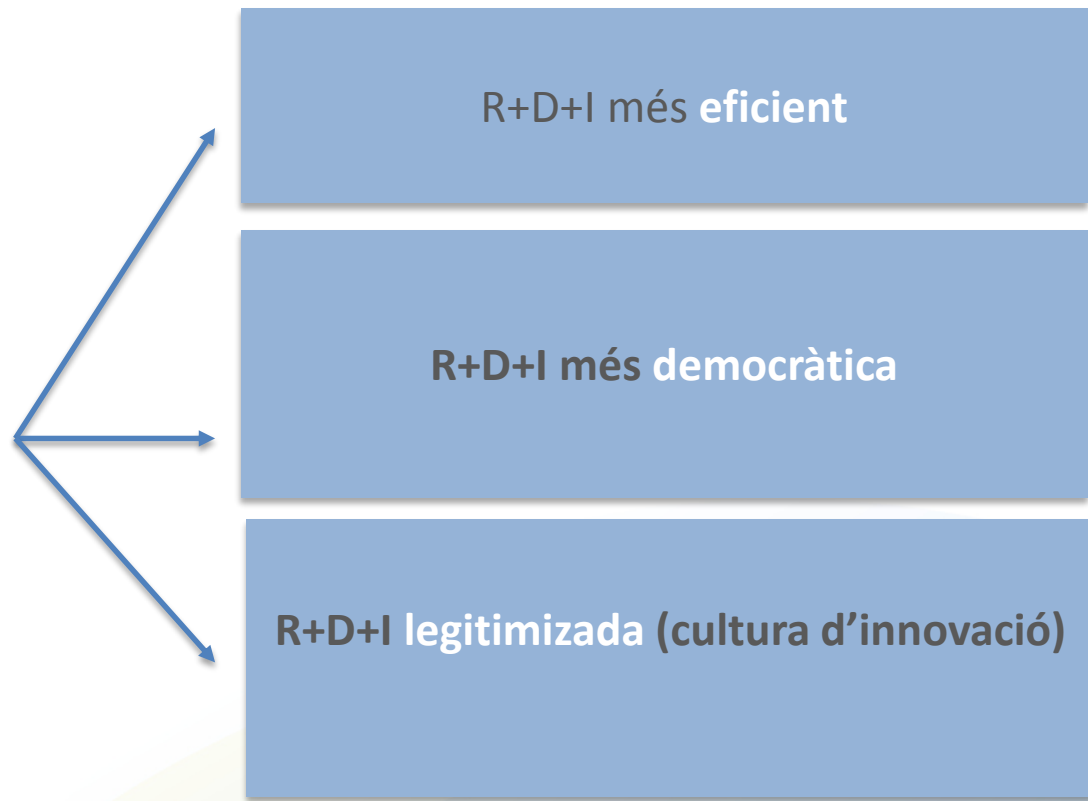
8/8 R+D+I: Excel·lència, Apertura, Impacte

R+D+i més alineada amb les **necessitats i els valors** dels diferents actors socials i amb criteris de sostenibilitat

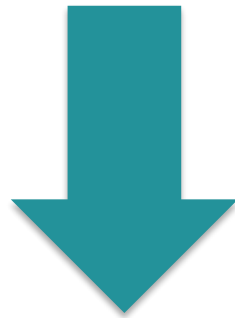
Open **Innovation**
Open **Science**
Open to the **World**

– a vision for Europe

EC, 2016



DEFICIT MODEL



Model de responsabilitat
compartida

COMPARTEIX LA TEVA RESPONSABILITAT!

Moltes gràcies!



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