An empirical impact assessment framework for RRI key dimensions

RRI Impact messen?

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Neue Governance durch RRI?
(am Beispiel von zwei EU-Formaten diskutiert)

- Welche Vorstellung von RRI Impact steht hinter den Förderinitiativen der europäischen Forschungspolitik?
  - „Klassische“ Interventionskonzepte
  - Indikatorenbasiertes Assessment
- Verändert RRI Wissensproduktion und die damit verbundenen Entscheidungsprozesse hin zu einer RRI Governance?
  - Multiple Interventionsoptionen und Szenarios
  - Prozessbasiertes Assessment

What is RRI?

- Definition 1: von Schomberg (2013)

  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

What is RRI?

- Definition 2: von Schomberg (2013) after revision by Davis and Laas (2013)

Transparent, interactive process by which researchers, innovators and other 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 in societally desirable ways (including, but not limited to, ways that are sustainable and ethically acceptable)

Ein RRI-Beispiel aus Mexico-City

Responding to health issues

Contribution to employment and local development

Involving the local community

Responding to environmental issues such as preventing the extinction of a threatened species

Looking for cross-fertilisation and synergy effects (connection to tourism activities)

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„Klassisches“ Interventionskonzept (input-output)

Starting conditions:	Policy Interventions	RRI	Informed citizens and policymakers	Improved conditions:
Societal challenges, needs for growth and innovation	concerning RRI key dimensions		Improved policymaking	Societal challenges, needs for growth and innovation

Implementierung von RRI-Schlüsseldimensionen

Wirksamkeit von RRI-Benefits

Wer will messen?

CALL FOR TENDERS N° RTD-B6-PP-00964-2013

Monitoring the evolution and benefits of Responsible Research and Innovation

- The subject of this call for tender is one of four studies that are foreseen in the Science in Society Work Programme.
- Its objective is to provide scientific evidence, data, analysis and policy intelligence to support directly Directorate General for Research and Innovation (DG RTD) research funding activities and policy-making activities in relation with Responsible Research and Innovation (RRI).

- Specifically, the study aims to determine the scope and the benefits or Responsible Research and Innovation for Europe, based on a sound ... methodology that allows monitoring the current state and short-term evolution of Responsible Research and Innovation and its socio-economic and democratic impacts.

Was soll gemessen werden?

5 RRI Key Dimensions in EU-28 and AC

(Systemebene, Organisationsebene und Wissensebene)

- Citizen engagement and participation of societal actors in research and innovation;
- Science literacy and scientific education;
- Gender equality in research and innovation and gender dimension in research and innovation content;
- Open Access to scientific knowledge, research results and data;
- Research and innovation governance (including ethics).

Wie soll gemessen werden?

RRI-Schlüsseldimensionen werden auf detaillierte Indikatorensets heruntergebrochen

RRI Dimensions				
1 Citizen engagement	2 Science literacy	3 Gender equality	4 Open Access	5 Governance and ethics
Participation of CSOs in publicly funded research and innovation projects	Scientific workforce as % of total workforce	Number/share of females in scientific workforce	Open Access Policy in place yes/no	TA Office in place yes/no
Alumni networks of universities				
E-participation of individual citizens and CSOs in online fora of research and innovation	Number of people with university degree / high school degree	Number of female entrepreneurs		National ethics committee in place yes/no

Wie soll gemessen werden?

Benefits der RRI-Schlüsseldimensionen in EU-28 and AC

- Impact asssessment of social, economic, democratic and environmental benefits coming from the five RRI key dimensions

Do the RRI key dimensions have had a statistically significant influence since their implementation?

An example:

RRI key dimension *Participation of societal actors in research and innovation*

and benefit dimension *social innovation*

following up on the hypothesis: “We see more/less social innovation in countries with high/low participation of societal actors in research and innovation”.

Zusammenfassung: Neue Governance durch RRI?

Klassische Interventionslogik & indikatorenbasiertes Assessment

- Grundannahme: Gesellschaften, die ihre Forschung und Wissensproduktion offen, transparent, partizipativ, egalitär und ethiksensitiv organisieren, begegnen gesellschaftlichen Herausforderungen erfolgreicher als Gesellschaften, die dies nicht tun
- Europäische RRI-Förderstrategie „hebt“ EU-28 und AC auf diese Ebene
- Es gibt verschiedene RRI-Implementierungsstufen, die gemessen werden können und EU-28 und AC in einer Typologie anordnen (early adopter, forerunner, imitator, slow responder etc.)
- Meßinstrument ist ein Indikatorenset, welches die Variablen der RRI-Schlüsseldimensionen operiationalisiert und welches vergleichendes Assessment des Implementierungsgrades der Dimensionen und der dazu gehörigen RRI-Benefits ermöglicht

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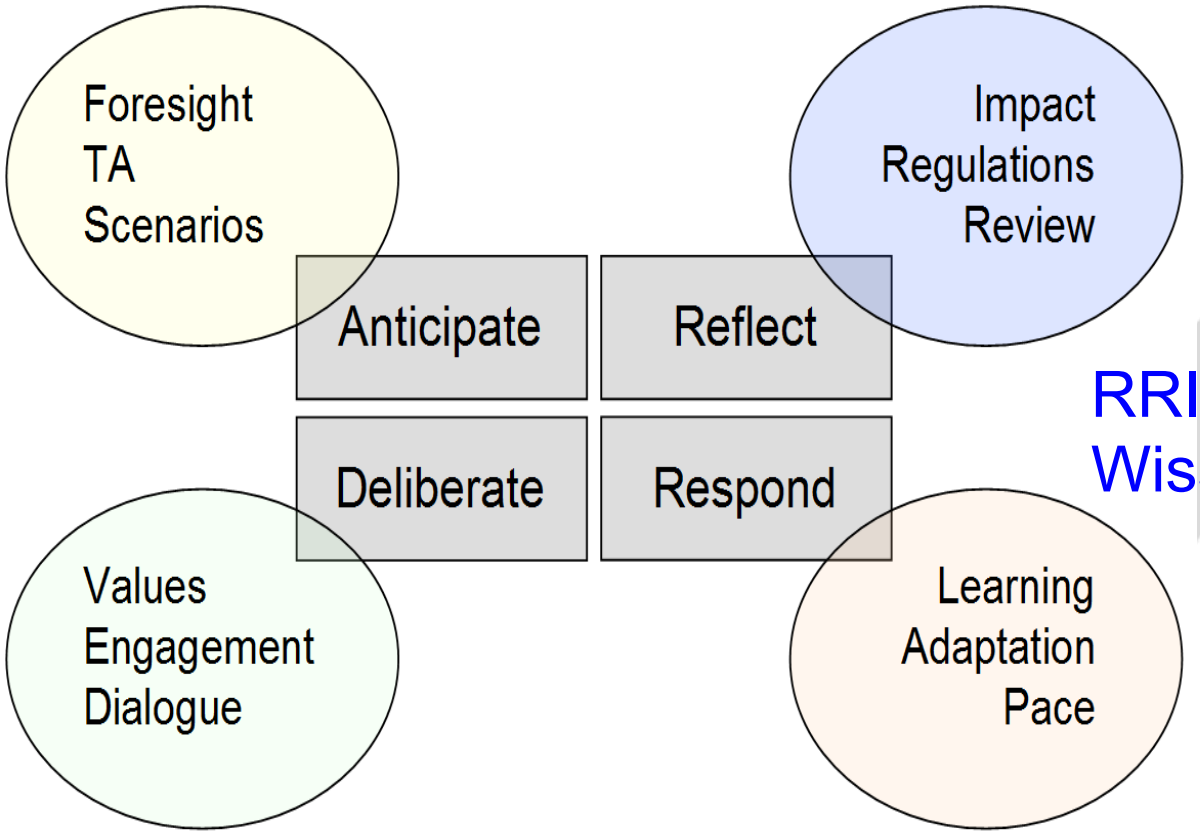
Verändert RRI Wissensproduktion und die damit verbundenen Entscheidungsprozesse hin zu einer RRI Governance?

EU-Konzept von Responsible Stewardship



RRI-Elemente in der Wissensproduktion

EU-Forschungsprojekt GREAT

SiS.2012.1.1.1-1: Governance Frameworks for Responsible Research and Innovation (RRI)

FP7 Collaborative project “Governance of Responsible Innovation” (GREAT)

Laufzeit: Februar 2013 – Januar 2016

EU-Forschungsprojekt
GREAT

The ***GREAT*** project will **develop an empirically based and theoretically sound model of the role of responsible research and innovation governance.**

The project will explore the dynamics of participation in research and innovation, and investigate the characteristics of responsible practices. It will investigate the nature of new partnerships among various stakeholders, researchers and policymakers that are developing within innovation networks and the influence that these developments have on knowledge production and policy.

This will be done by:

- determining the characteristics of research and innovation
- involving diverse groupings and
- determining the social processes involved in responsible research and innovation practices.

In doing so, the ***GREAT*** project will address **all three issues requested in the call**:

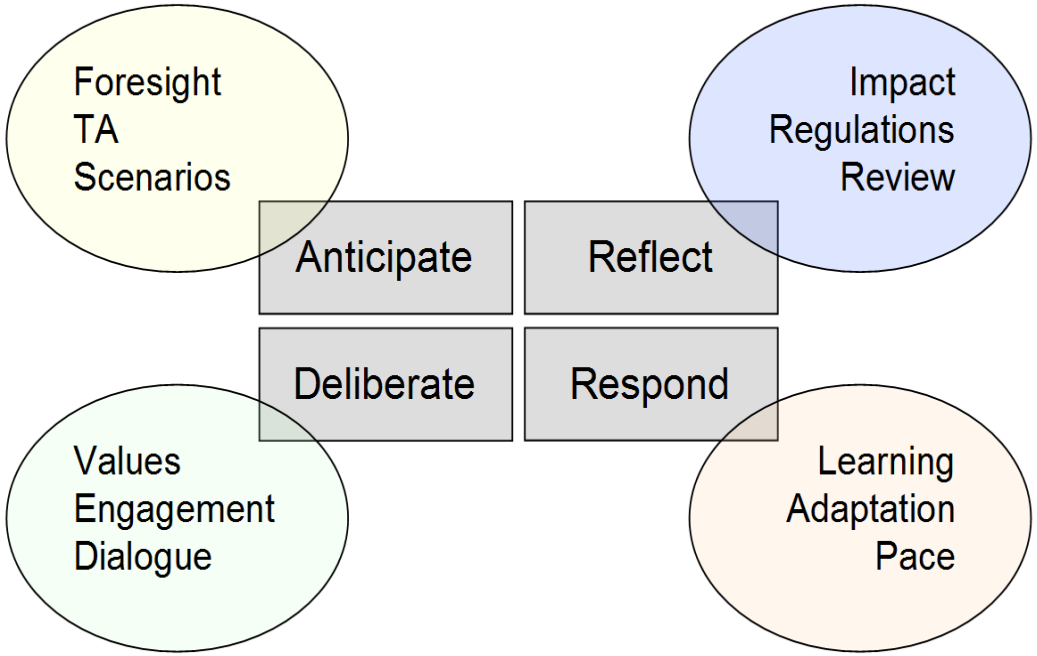
It will explore the knowledge and research potential of multi-stakeholder approaches in research;

it will investigate how responsible innovation is involved in research processes and

it will use this knowledge to inform policy makers on how to integrate responsible innovation in further research activities.

Impact Assessment:

(Wie) funktioniert so etwas auf der Ebene von Systemen (z.B. ERA), Netzwerken (z.B. EU-geförderten Forschungsprojekten), Organisationen und Individuen?



- RRI-Profile von Akteuren
- RRI Life Ccyle von Projekten

WP4
GREAT

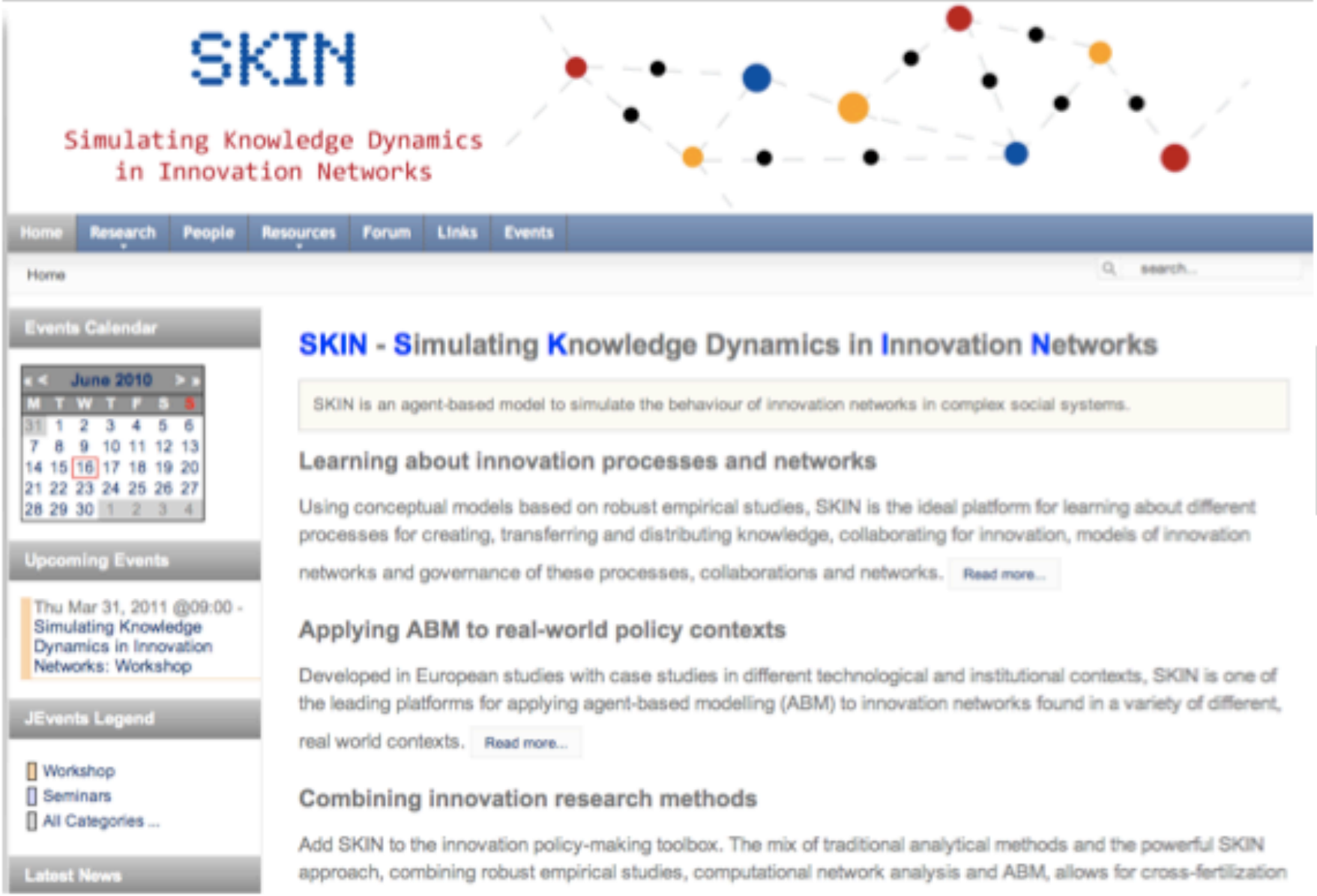
- Empirische Forschung zu RRI-Profilen von Forschungsakteuren in EU-Projekten (quantitativ u. qualitativ)
- Empirische Forschung zu RRI Life Cycles von EU-Projekten und –Programmen (quantitativ u. qualitativ)
- Empirisches Impact Assessment von Interventionen und Prozessen
- Multiple Interventionsoptionen und Szenarios: Was-Wäre-Wenn-Fragen mit agentenbasierter Simulation (SKIN-Modell)

Datenbasis: CIP ICT-PSP

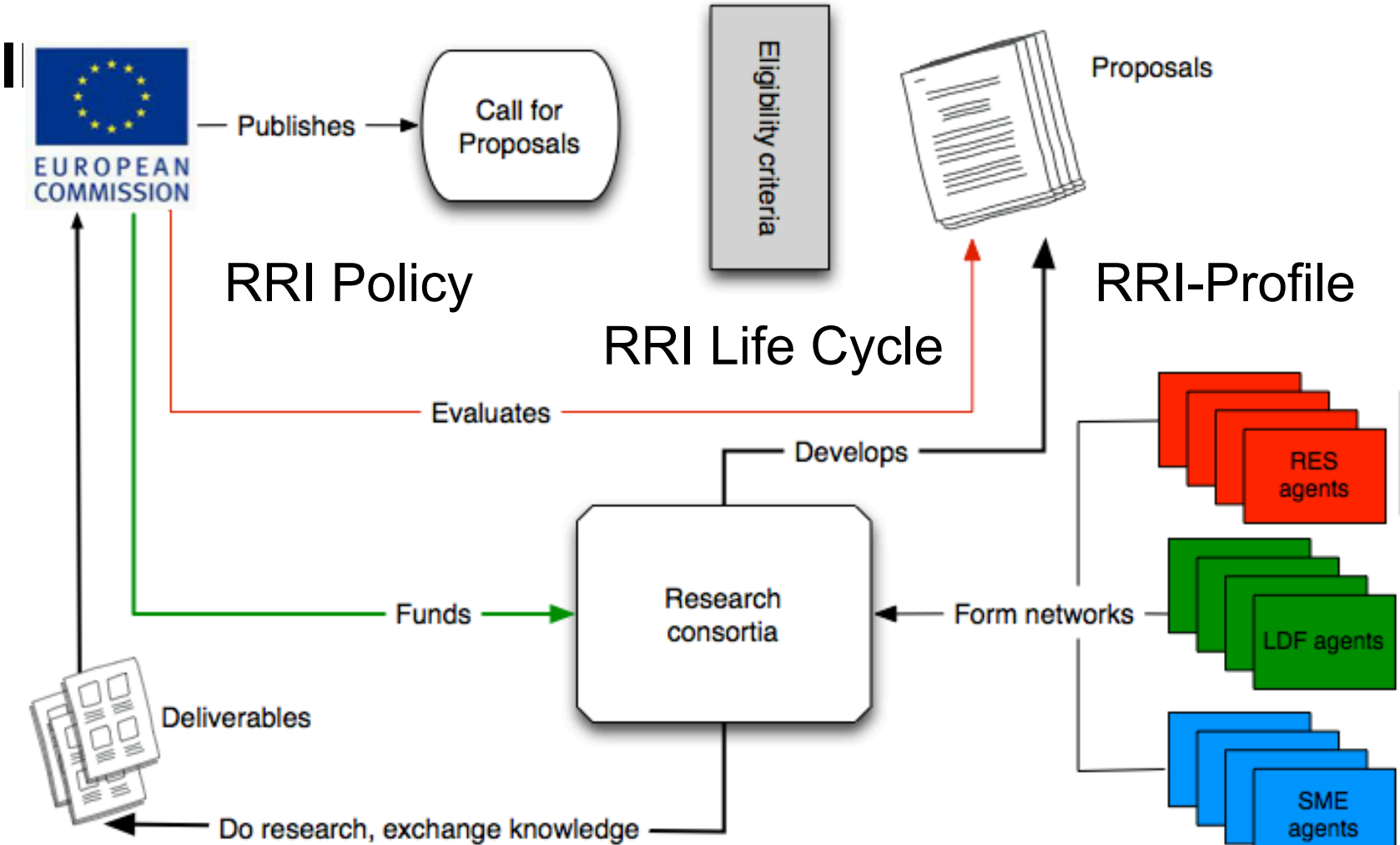
geeignet weil innovationsorientiert
und viele zivilgesellschaftliche Akteure

http://ec.europa.eu/information_society/activities/ict_psp/index_en.htm

http://cress.soc.surrey.ac.uk/SKIN/

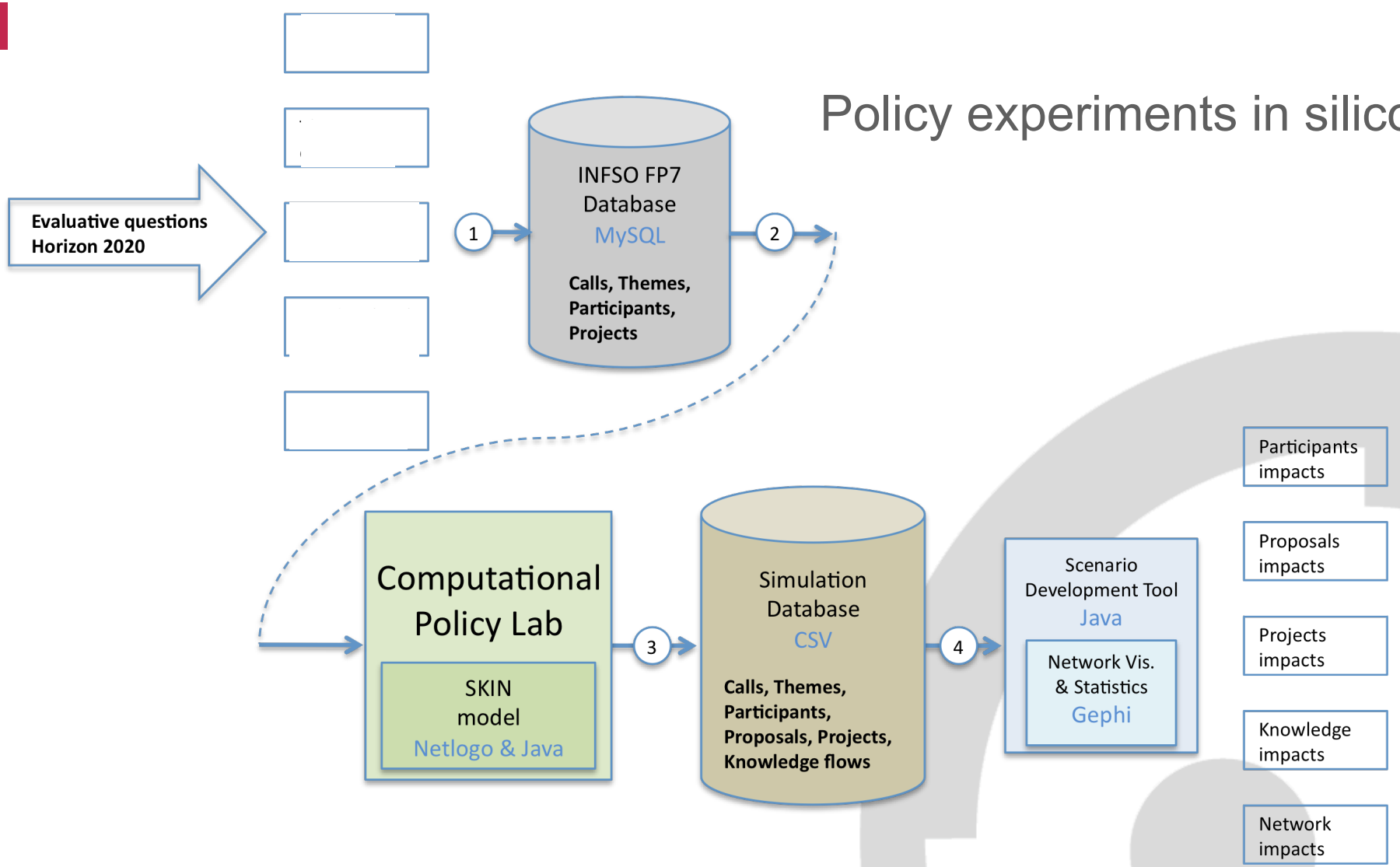


RRI-SKIN



RRI Life Cycle

Workflow für RRI governance assessment



Experimente mit unterschiedlichen Modellen von RRI-Governance

RRI Governance Models	Description
Standard Model	Based on the principle of top-down governance of experts and the principle of “irrationality” of non experts
Revised Standard Model	Same as standard model but includes the principle of political mediation (especially regarding risks)
Democratic-Inclusive Model	The principle of irrationality is dropped and substituted by the principles of “industrial biasing” and “public biasing”
Co-Constructive Model	The principle of top-down governance is dropped and substituted by the principle of public co-creation

Die anderen WPs in GREAT erarbeiten
RRI-Governance-Modelle, -Hypothesen, -Was-wäre-wennFragen

Zusammenfassung: Neue Governance durch RRI?

Multiple Interventionsoptionen und Szenarios & Prozessbasiertes Assessment

Aus EU-Tender-Ausschreibung: Simulating the role of Civil Society Organisations (CSOs) in EU-funded research (DG Research/Connect; 2014)

- To what extent does increased CSO participation lead to wider and more diverse networks?
- To what extent and how CSOs contribute to network performance?
- What types of policy interventions, if any, help CSOs contribute to more stable and productive networks?
- To what extent and how different types of policy intervention contribute to research impacts?

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Vielen Dank für Ihre Aufmerksamkeit!