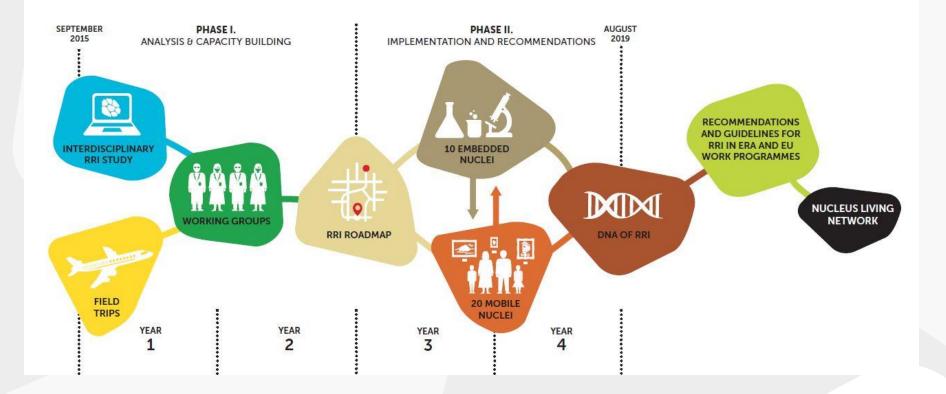
IMPLEMENTATION AND EVALUATION

Caitrīona Mordan - Dublin City University Menelaos Sotiriou, Science View



THE NUCLEUS PROJECT





EMBEDDED NUCLEI

EMBEDDED NUCLEI ARE DEDICATED UNITS TASKED WITH IMPLEMENTING RRI STRATE-GIES & APPROACHES INTO INSTITUTIONAL SETTINGS RESULTING IN A SERIES OF POLICY RECOMMENDATIONS FOR THE EUROPEAN COMMISSION.

- 1. ILIA STATE UNIVERSITY, GEORGIA
- 2. NOTTINGHAM TRENT UNIVERSITY, UNITED KINGDOM
- 3. UNIVERSITY OF LYON, FRANCE
- 4. UNIVERSITY OF TWENTE, THE NETHERLANDS
- 5. UNIVERSITY OF MALTA, MALTA
- MISANU MATHEMATICAL INSTITUTE OF THE SERBIAN ACADEMY OF SCIENCES AND ARTS, SERBIA
- 7. NRF-SAIAB NATIONAL RESEARCH FOUNDATION SOUTH AFRICAN INSTITUTE FOR AQUATIC BIODIVERSITY, SOUTH AFRICA
- 8. RUHR UNIVERSITY BOCHUM, GERMANY
- 9. RHINE-WAAL UNIVERSITY OF APPLIED SCIENCES, GERMANY

10. INSTITUTE OF WETLAND RESEARCH, CHINA

8 EN IN EUROPE 1 EN IN SOUTH AFRICA 1 EN IN CHINA



NUCLEUS ACTION FRAMEWORK

ACTION THE NUCLEUS ACTION FRAMEWORK PROVIDES EMBEDDED NUCLEI WITH A STRUCTURED APPROACH FOR INTRODUCING STEP-CHANGES TOWARDS EMBEDDING RRI IN THE LOCAL STRUCTURE AND CULTURE IN THE 10 'TEST BED' RESEARCH INSTITUTIONS. FRAMEWORK THE 8 NUCLEUS ACTIONS FOR EMBEDDED NUCLEI IMPLEMENTATION ARE AS FOLLOWS: 3 2 CONDUCT RRI **DEVELOP RRI** BUILD CATALYSE INSTITUTIONAL ONGOING CONTEXT POLICY. MAPPING **COMMITTEE AND** BRIDGES DEBATES STRATEGY 5 8 6 SUPPORT NEW STIMULATE CO-QUESTION, & **REFLECT, ANALYSE** FORMS OF **RESPONSIBILITY OF REDEFINE NOTION PROCESSES AND** TRANSDISCIPLINAR ALL **OF 'RECIPIENTS' &** PROCEDURES **Y RESEARCH** ACTORS 'AGENTS'





IDENTIFY, EXTEND AND ENRICH THE PROCESSES THAT ALREADY EXISTS

- Understand institutions predisposition to RRI related initiatives
- Conduct RRI Self Assessment

ENGAGE INSTITUTIONAL LEADERSHIP & BUILD CAPACITY

2 DEVELOP RRI POLICY, COMMITTEE AND STRATEGY

- Setting out a clear rationale and structure for developing RRI approaches and practices within the institution and with external stakeholders.
- Set up reporting structure with senior leadership
- Identify and appoint RRI Champions
 - Set-up cross functional RRI Committee
- Embed RRI as a cross-cutting theme in institutional strategic policy



FOSTER TRUST, DIALOGUE AND DYNAMIC COMMUNICATIONS WITH INTERNAL AND EXTERNAL STAKEHOLDERS

- Bridges represent the two-way dialogic process of exchanging ideas and fomalising knowledge contributions between the Embedded Nucleus and representatives from the six stakeholder cells;
- Set up meetings to establish/manage expectations with 6 stakeholder
- Actors are acknowledged on papers as contributing authors



NUCLEUS

CATALYSE ONGOING DEBATES

5 SUPPORT NEW FORMS OF TRANSDISCIPLINAR Y RESEARCH



•

REFLECTION, DISCUSSION AND CONSIDERATION ABOUT THE ROLE OF SOCIETY IN THE RESEARCH PROCESS

- Creating opportunities to extend the governance discussion to encompass questions of uncertainty (in its multiple forms)
- It includes the generation of discussion on anticipatory approaches to scientific developments.
- Create awareness of RRI through events, online marketing
- Create platforms for researchers and staff to contribute to discussion on RRI, the risk and impact on scientific developments

EXTERNAL STAKEHOLDERS HAVE THE OPPORTUNITY TO COLLABORATE WITH RESEARCHERS, WHEN APPROPRIATE

- Engage with the stakeholders (cells) at the early stages of the research process to enable new forms of societal focused transdisciplinary research
- Assess the number of projects that demonstrate stakeholder inclusion
- Create opportunities for researchers to meet with relevant stakeholders at funding application stage/early research stage
- Provide societal innovation vouchers for research lines which solve local/global societal issues

STIMULATE 'RESPONSIVENESS' OF ALL ACTORS IN RRI

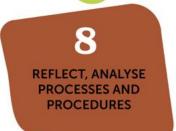
- Identifying what and how the parties can contribute and having an openness as well as a willingness to act together.
- Review existing procedures for institutional engagement
- Establish an incentive/reward system for researchers
 - Include RRI as an evaluation criterion for research funding



QUESTION. & REDEFINE NOTION OF 'RECIPIENTS' & 'AGENTS'

SUPPORT RESEARCHERS DEVELOP THE KNOWLEDGE, SKILLS AND COMPETENCIES TO BECOME A RESPONSIBLE RESEARCHER & CITIZEN

- Support researcher to work in an ethical manner with a diverse range of stakeholders
- Introduce social and ethical responsibility as an education subject
- Develop RRI continuous professional development modules (CPD) for researchers
- Formally embed RRI training on participatory research in educational structures e.g. PhD Schools



INTEGRATE ONGOING MONITORING & REFLECTION INTO OPERATIONAL AND WORK PRACTICES OF NUCLEUS UNIT

- Set-up online system to track and monitor how RRI practices have shaped the institutional culture
- Complete NUCLEUS mentoring log after each mentoring session



NUCLEUS Action Framework

Origin of the Actions - Example

Action 4: Develop, nurture and support new forms of transdisciplinary research

<u>Element</u>	<u>Origin</u>
Assess the number of projects that demonstrate stakeholder inclusion	MORRI
Discuss the importance and scope of having more transdisciplinary research with research and policymakers	Dublin Field Trip (WP4) – Economy
Discuss the importance and scope of having more transdisciplinary research with funding agencies	Dublin Field Trip (WP4)- Economy
Create opportunities for researchers to meet with relevant stakeholders at the research/funding application stage	Nottingham Field Trip – Public Policy (WP4)
Track the number of projects that demonstrate stakeholder inclusion over period of RRI implementation (medium- long term)	Nottingham Field Trip – Public Policy (WP4)
Introduce societal innovation vouchers for research lines which solve local/global societal issues	Dublin Field Trip (WP4)- Economy
Explore and develop an RRI certification mark (or equivalent) with funding agencies/policy makers	Dublin Field Trip (WP4)- Economy



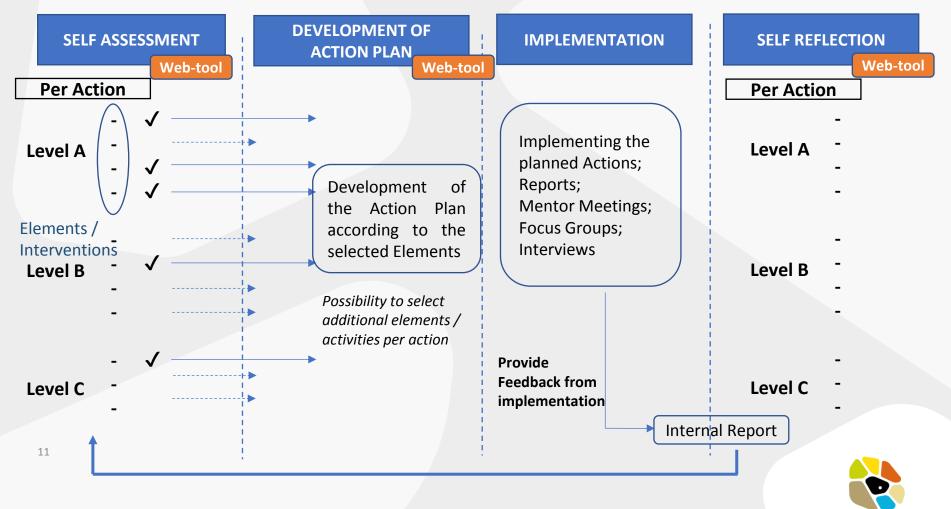


INTEGRATED IMPLEMENTATION AND EVALUATION



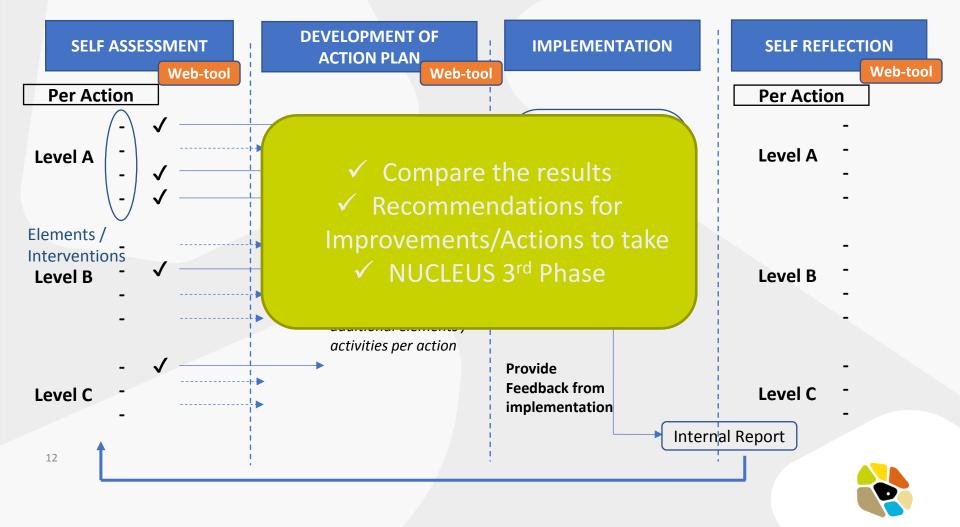


NUCLEUS IMPLEMENTATION & EVALUATION APPROACH: Embedded Nuclei





NUCLEUS IMPLEMENTATION & EVALUATION APPROACH: Embedded Nuclei



NUCLEUS

NUCLEUS Web-Tool Action Plan

	and reseachers can share interests/ask questions	Outcomes expected:
Subset of the set	+ Add more elements Action 3: Catalyse ongoing debates about the role of science in society + Add more elements Action 4: Develop, nuture and support new forms of transdisciplinary research + Add more elements Action 5: Stimulate the responsibility of all actors involved in the	.:i Cells to be engaged: Governance Public Engagement Civil Society Media Public Policy Economy
can support the implementation of RRI 1B.1 Set up a reporting structure with senior leaders to share developments and progress at pre-defined intervals over the project lifecycle	Process of research and innovation + Add more elements	Time Schedule
1C.1 Embedding RRI as a cross-cutting theme in the institution's strategic policies + Add more elements	Action 6: Question and refine the prevailing notion of 'recipients' and 'agents' + Add more elements	b.
Action 2: Build institutional bridges between the research community, stakeholders and the general public		
2A.2 Set-up meetings to establish/manage expectations with six stakeholder groups: Public Policy, Media, Economy, Public Engagement entities, Civil Society		
2B.1 Dedicated physical space and/or virtual space where stakeholders	ii.	



SOUTH AFRICIAN INSTITUTE FOR AQUATIC BIODIVERSITY

Penny Haworth – SAIAB

Shadrack Mkansi – SAASTA





NUCLEUS

PROGRESS INSIGHT

- Work SMART: Win Hearts & Minds ٠
 - Transformation Agenda
 - SAIAB Engaged _

STIMULATE CO-RESPONSIBILITY OF ALL



Use existing platforms to grow RRI Community of Practice -

- Marine Research Platform Provision and Collaboration



LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context PROGRESS INSIGHT Lesson learned



SOUTH AFRICAN AQUATIC BIODIN QUESTI

REDEFINE NOTION OF 'RECIPIENTS' & 'AGENTS'



Lesson learned

There's no need to reinvent the wheel - RRI can be built into existing programmes and projects.





The principles of RRI are accessible and workable across multiple functions and expertise - **everyone can be involved.**

SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



RUHR UNIVERSITY, BOCHUM

Annika Doring Marco Rustemeyer



INSTITUTIONAL CONTEXT

Ruhr-Universität Bochum

- is one of Germany's biggest universities and offers the full range of academic disciplines
- Has enabled a strong emphasis on interdisciplinary cooperation
- Research School is the university-wide graduate school that prepares doctoral researchers for their further career inside and outside academia

• Our Embedded Nucleus

- is based on a close collaboration between the Corporate Communications Department and the Research School
- Aim: inform early career researchers about RRI and raise their awareness for their societal responsibility
- Focus on the cells university, civil society, and media

• Starting point for the implementation of RRI

- Regarding these cells, strong networks and experiences already exist at our university (e.g. Blue Square)
- Our university already if successful in different aspects of RRI
- A joint RRI framework is missing
- Early career researchers will have a seat at the table when defining goals, benefits and challenges of RRI

SLIDE 1 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned



PROGRESS INSIGHT

- Science College
 - interdisciplinary event offered once a year by the Research School
 - This year's topic was: "Building trust in research(-ers)"
 - Many early career researchers attended and discussed
 - Proof for the importance of the topic for doctoral researchers

SLIDE 2 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context PROGRESS INSIGHT Lesson learned



Lesson learned

- RRI takes place at the university in many ways
- Career development for early career researchers is important for the university
- RRI is important because there are many doctoral researchers who want to engage with the public but don't know how to. Therefore, we build up the framework for them.

SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



UNIVERSITY OF LYON

Florence Belaën



INSTITUTIONAL CONTEXT

- The Université de Lyon is a community of higher education and research institutes: a strength that could be a weakness
- The RRI implementation is based on our main strengths: activities involving public engagement and civil society, especially our Science Shop

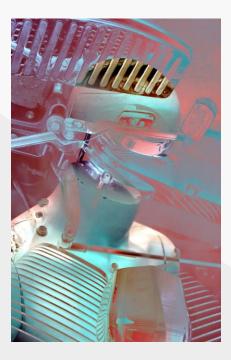


SLIDE 1 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned



PROGRESS INSIGHT

- The Social Innovation Lab: a new initiative that includes several items of the framework > multiactors committees, dialogue with societal actors, promotion of new form of participatory and transdisciplinary research...
- **Pop'Sciences:** a new website and magazine
- > An innovative form of scientific mediation and promotion of ongoing debates about the role of sciences in societies





SLIDE 2 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context PROGRESS INSIGHT Lesson learned

Lesson learned

- What did we learn since the start of the process?
 - For training sessions bring together people coming from different backgrounds and solicit their ideas in a creative manner.
 - Bring inspiring testimonials to show the benefits of RRI.
 - Avoid EU jargon with stakeholders. Try to speak their language and translate theory into concrete actions.
 - Take into consideration that often public institutions are composed of different actors having different needs, sometimes in contradiction.

SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



ILIA STATE UNIVERSITY

Nino Sharikadze



INSTITUTIONAL CONTEXT

- Ilia State University was founded in 2006, currently, it is one of the leading research and educational institutions in Georgia.
- Our main strengths: public engagement and civil society , strong engagement and support from senior leadership



SLIDE 1 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned



PROGRESS INSIGHT

- We have a strength in public engagement and active involvement and support from senior leadership in the bid to embed RRI practices into ISU
- Media Engagement Workshop in RRI;
- Active engagement of stakeholders.





Lesson learned

- Understand internal and external views of RRI, what they consider their role is, is an important starting point to;
- Meetings are essential to gain an understanding of what support exists
- Understanding stakeholders (internal and external) views of RRI, what they consider their role to be, is an important starting point to develop an action plan to support how and what needs to be implemented to make it work for our institution.

SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



MATHEMATICAL INSTITUTE -SANU

Zoran Marković & Marija Šegan-Radonjić



INSTITUTIONAL CONTEXT



- We are a unique centre for mathematicallyoriented research with more than 70 fulltime researchers and 250 part-time collaborators.
- The Self Assessment exercise showed that we are at the starting point of integrating the RRI principles within the MISANU culture and governance.
- However, some of the elements of RRI (e.g., public engagement or open access) are already implemented in MISANU practice, but they were not officially recognized under the notion of RRI.

SLIDE 1 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned



PROGRESS INSIGHT



- Framework Develop New Forms of Transdisciplinary Research
- Cells involved Research, Governance (Serbian Ministry of Culture, Ministry of Education, Science and Technological Development) and Economy (National telecom provider Telekom Serbia)
- Goal: Bridge the gap between Industry and Academia
- Results: Cooperation Agreement on Cultural Heritage Digitization, Round Table "Historical place of Bač and its surroundings", Public Forum on Privacy in the Digital Age, Creation of the National Center for Cyber Security and Privacy...

SLIDE 2 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context PROGRESS INSIGHT Lesson learned



Lesson learned

• The participation in NUCLEUS project inspired MISANU Embedded Nucleus Team to focus not on the activities, but on the *idea*. In embedding the *idea* in our governance, we are not alone! There is a large RRI community willing to be our ally and to support us in our service to society and science.



SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



UNIVERSITY OF MALTA

Hans-Joachim Sonntag & Nika Levikov



INSTITUTIONAL CONTEXT

- The University of Malta (UM) conducts research in a wide variety of fields, such as entrepreneurship and innovation communication (science and art collaborations)
- Island nation: small ecosystem, can bring stakeholders together informally very easily
- Formally integrate RRI: working alongside senior leadership to see what works best in local context



SLIDE 1 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned



PROGRESS INSIGHT

- NUCLEUS Core Committee set up with pro-rectors etc.
- Conducted self-evaluation study, incl. several interviews
- Action 2: "Develop RRI Policy, Committee & Strategy"



SLIDE 2 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context PROGRESS INSIGHT Lesson learned



Lesson learned

- RRI can enhance mutual interests and benefit all involved
 - Build on existing collaborations and think about how these can be supported and formalised
 - Take into account concerns and make sure they are addressed: start with smaller RRI pilot projects, and tackle bigger picture following conclusions of local study
 - Bring people together to make RRI a concept for everyone!

SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



INSTITUTION OF WETLAND RESEARCH

CUI Lijuan & LEI Yinru



• Situated in Beijing, Institute of Wetland Research (IWR), Chinese Academy of Forestry is one of the top research institutes on basic theory and applied technology of wetlands in China.



• As a government constitute institute, IWR has a strong relationship with policy-makers, which can be used as one of the strengths for embedding RRI.

- Cross disciplinary research and science communication have been increased significantly within IWR and outside research community, bringing intensive cooperation with other cells such as universities, media and public engagement.
- Challenges are the absence of RRI-related policies in current IWR.

SLIDE 1 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned



- Law Interpretation Book for "Beijing Wetland Conservation Regulation"
 - -- Framework: build institutional bridges between the research community and stakeholders
 - -- Cell involved: IWR, Wetland administrative departments, Wetland law-enforcement department, wetland managers, scientists, wetland design and planning company, book publisher, NGO and volunteers, and general public
 - -- Goal: encourage mutual participation of different stakeholders
 - -- Results: Different stakeholders contributes various ideas that improves the acceptability





Lesson learned



RRI processes should take place as early as possible

• One key of RRI implementation was the transformation of the prevailing notion of 'agents' to 'recipients'.

--Internal influence: through RRI implementation, researchers in IWR have get new ideas, polished research design and expanded social influence of their research.

--External influence: through RRI implementation, stakeholders got access to know scientific progress, participated in research design and expressed their needs.

SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



RHINE-WAAL UNIVERSITY

Annette Klinkert











LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned

















SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED



UNIVERSITY OF TWENTE

Anne Dijkstra & Mirjam Schuijff



- 10,000 students, 3,000 staff
- Entrepreneurial university
- Based in department Communication Science
- 'High tech, human touch'
- Capacity building, catalysing ongoing debates about science-society relationship
- With various activities



SLIDE 1 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned

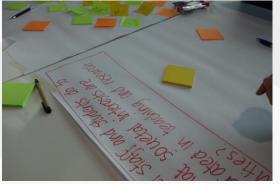


• Various activities, e.g.: Responsible robotics study; Scientific integrity for PhDs; World café event

• World café with RUNIN project

- Think tank event
- Building bridges and catalysing debate
- With researchers, students, policy makers, decision makers, other HE institutes
- Immediate reflection by Mayor of Borne
- Report offered to the Board of the UT





SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED

Lesson learned

- Building a community of practice by seeking collaborations
- Be open to options / diversions
- In context of science-society relationship; not necessarily in wording of RRI; that is for us to 'translate'
- Willingness by researchers
- Meet often with people, drink coffee



NOTTINGHAM TRENT UNIVERSITY (NTU)

Karen Moss & Carl Brown Represented by Caitriona Mordan



NTU – oldest part founded in 1843 becoming NTU in 1992 One of UK largest universities >28,000 students

• 5 key themes of NTU's strategic plan align well to RRI:

 Creating Opportunity, Valuing Ideas, Enriching Society, Connecting Globally and Empowering People

Self-Assessment showed

- NTU has policies and structures that align and support RRI But
- Engagement of staff & students is limited
- Numerous activities with elements/principles of RRI but localised and in silos

This means there is poor communication and dissemination of activities which hinders a university wide culture of RRI

SLIDE 1

LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS INSTITUTIONAL CONTEXT Progress insight Lesson learned



Cells engaged: Cell 1- Universities; Cell 2: Public Engagement & Cell 3: Society

Our example: Participation in Institutional Review of Research Integrity (Action 6)

- NTU review of structures, policies and systems for responsible conduct of research
- NUCLEUS intervention with Senior Pro-VC for research led to Embedded Nuclei (EN) taking part in institutional review process
- EN team involved in 2 working groups on Research Integrity & Practice + Research Ethics Structures & Systems and carried out a detailed analysis for the review of national best practice in UK which informed outcomes

Outcomes currently include

- New policies and structures currently being finalised.
- Agreement to embed RRI training into PhD training programmes from 2018-
- Lay people to be part of ethics committees



Lesson learned

The major challenge in is the '**shifting sands'** nature of the university environment.

• People, processes and key performance indicators are in a constant state of flux – this makes constructing and implementing lasting culture change difficult.

Things that help

- Be pragmatic: e.g.- it was not possible to develop a global RRI policy within NTU's governance structure so we focused on introducing RRI into elements of pre-existing practice & policy
- Identify RRI 'Champions' within the University (e.g. via the context mapping exercise)
- Network till you drop e.g.
 - Conduct meetings with key internal stakeholders in both research and RRI elements
 - Attend internal and external events that align to RRI principles to identify and develop engaged stakeholders and raise awareness of RRI + NUCLEUS project

Influences that matter

- Getting the support of senior NTU people -by showing that NUCLEUS links to their drivers
- Having strong local networks with civic society

The NUCLEUS project matters because it makes us look at how we turn words on paper (principles/policies) into actions, behaviours and experiences that positively benefit both our universities and our societies SLIDE 3 LIVING RRI: INSIGHTS FROM 10 NUCLEUS INSTITUTIONS Institutional context Progress insight LESSON LEARNED

