



Re-defining the ecosystem of trust in science: the role of stewards of trust in changing research environments

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01 Why do we need VERITY now?



- **Changing research environments** i.e. new forms of research collaborations including public-private partnerships and citizen science
- The transition from an 'information age' towards a '**reputation age**' (Origgi, G., 2017. *Reputation*. Princeton University Press)
- A paradigm shift from institutional trust to a new form of **distributed trust**



Trust is moving into the hands of the many.
The traditional ecosystem of trust is broadening.

Reshaping the ecosystem of trust in science

- Exploring the **sources and consequences of mistrust** of society in science
- Fostering **collaboration** between science and society
- **Co-creating and testing** methods and tools for guiding societal trust in science
- Developing and validating a protocol of **recommendations** to enhance trust in science



03 Conceptual framework

- **‘Ecosystem of Trust in Science’**

VERITY introduces the ‘ecosystem of trust in science’ a conceptual space where societal trust in science is formed, shaped, negotiated, and influenced. It encompasses the complex interactions, dynamics, and factors that contribute to the construction, negotiation, enhancement, or reduction of trust in science.



- **‘Stewards of Trust’**

VERITY goes beyond the state of the art by conceptualising ‘Stewards of Trust’ as the actors within the Ecosystem that are responsible for upholding societal trust in science and facilitating science-society co-creation.

03 Conceptual framework (cont.)



VERITY's working definition of 'trust in science':

- 'trust in science' as a **dynamic relationship between actors within the ecosystem of trust**, where a **person (the truster)** trusts **another person (the trustee – Steward of Trust)** with **something (the object of trust)**, which can be an action, a state of affairs, or a proposition.

(Hardin R, 2002, Trust and trustworthiness Russell Sage Foundation; Iordanou & Antoniou, submitted, Public Trust in Science: A Systematic Literature Review).



03 Conceptual framework (cont.)

VERITY's approach to trust in science

TRUSTER

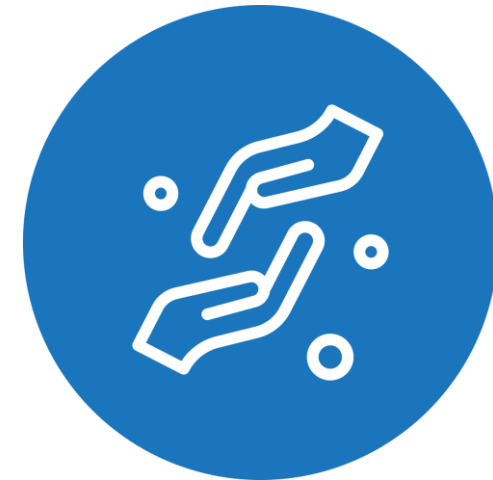


DIVERSE PUBLIC:

- Individual factors
- Intermediate factors
- Socio-cultural factors
- Technological factors

OBJECT OF TRUST: SCIENCE

TRUSTEE



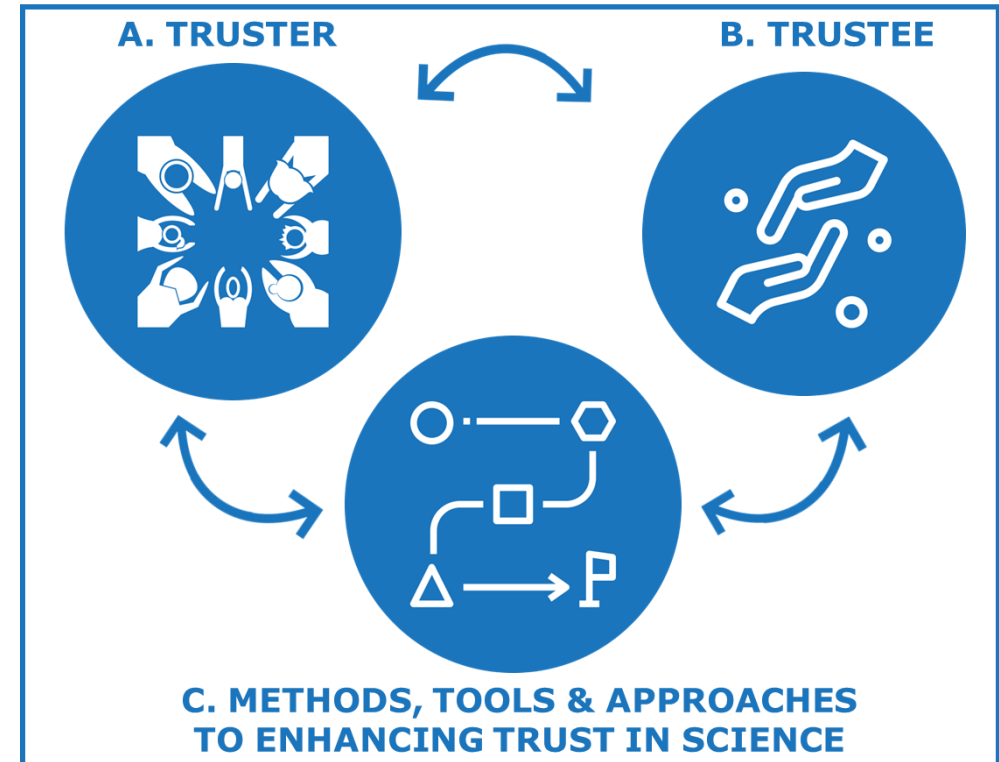
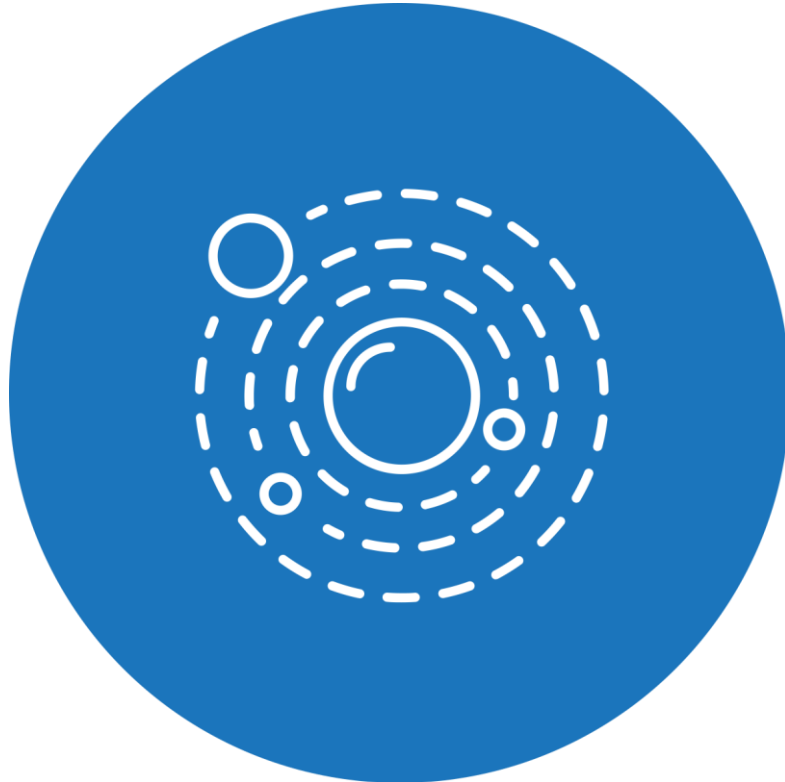
DIVERSE STEWARDS OF TRUST:

- Traditional Stewards of Trust (e.g. policymakers, RFOs, RPOs)
- Non-traditional Stewards of Trust (e.g. social media, industry, CSOs)

03 Conceptual framework (cont.)

VERITY's approach to trust in science

ECOSYSTEM OF TRUST





- **Expanding horizons of the Ecosystem of Trust**

VERITY broadens the scope of trust in science, including new stakeholders like companies, influencers, and peers.



- **Revisiting five machines of trust in science**

VERITY revisits five machines of trust, which are research integrity, research ethics, co-creation, technology assessment and benefit sharing. It explores how these five machines work together and support each other.



- **Engaging Stakeholders**

VERITY engages citizens, institutions, companies, and knowledge platforms. A cluster of like-minded projects reduces duplication, fosters collaboration, and encourages knowledge-sharing. The ADIM Board facilitates stakeholder-researcher communication.



- **Co-creating guidelines**

VERITY co-creates recommendations for different categories of Stewards of Trust for maintaining, enhancing, repairing, and nurturing societal trust in science. It reshapes the ecosystem of trust in science.

- **Systematic literature reviews based on the PRISMA protocol**
 - Analysis of 83 articles to identify factors associated with trust in science
 - Analysis of 19 articles assessing the effects of interventions on societal trust in science, research, and innovation.
- **Thematic analysis of the EU project outputs**
 - 59 EU projects under the Horizon 2020 – SwafS Programme.
- **Interviews and focus groups**
 - 17 focus groups and 31 interviews with stakeholders including academics, policymakers, CSOs, industry representatives, EU project managers and citizens.
- **Social Network Analysis**
 - Analysis of the 'CoVaxxy' dataset that contains the COVID-19 vaccine-related tweets. Sample size: 14.500 tweets.
- **Vignette Survey Study**
 - Sample size: 155 respondents.
- **Special focus on health and environment research**

- 1. Who to trust?**
- 2. What to trust?**
- 3. How is trust built?**

07 Working findings

A large, semi-transparent image of a microscope is positioned on the right side of the slide, serving as a background for the text.

Who do people trust?

- Scientists and Researchers
- Higher Education Institutions
- Opinion Leaders
- Governments and Policy makers (to some extent!)



07 Working findings (cont.)

What do people trust?

- Co-creation: Engagement and participation
- Quality Research
- Open Science
- Specific Science Communication and Communicators
- Publicly-funded Science



07 Working findings (cont.)

How is Trust built?

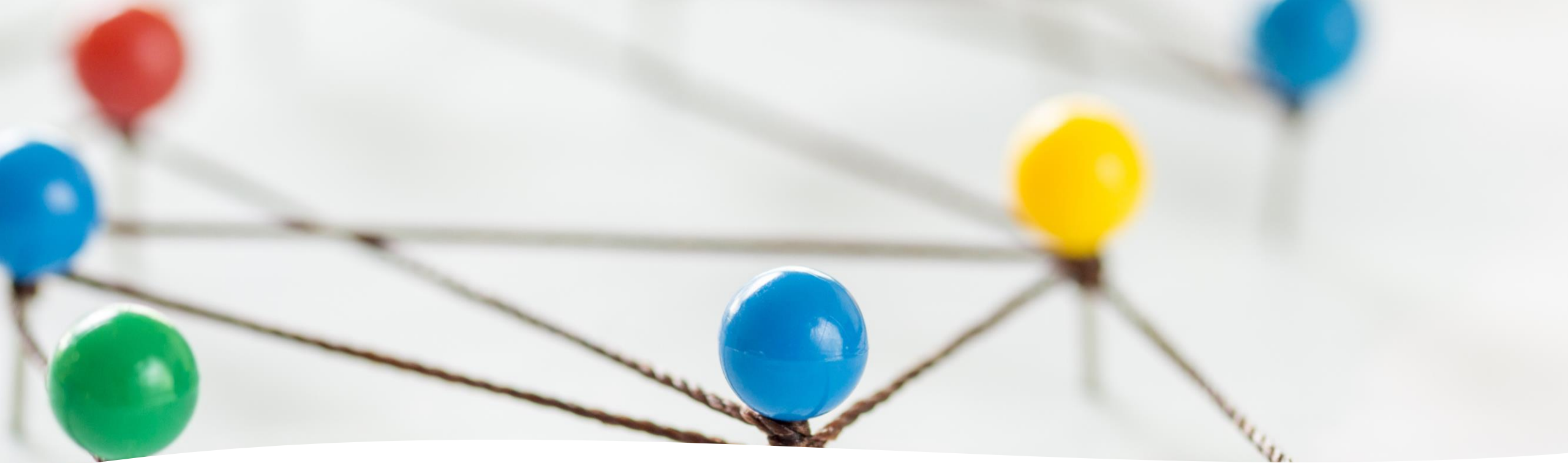
- **Active citizen participation and co-creation**
 - Participative forum design
 - A tailored approach to citizen engagement
- **Benefit sharing**
 - Distribution of benefits and burdens arising from research activities
 - Build-up of sustainable long-term relationships
- **Science communication**
 - Successful types of science communication
 - Addressing personal characteristics
 - Science communicators – who relays the science communication?
 - Dealing with controversial issues
 - Science communication through media and social media exposure
 - Regulation of social media/wider media



07 Working findings (cont.)

How is Trust built?

- **Decisive action during crises and emergencies**
- **Political neutrality**
- **Science Education**
 - Improving accessibility, inclusivity and scientific literacy through education
 - Open Science and addressing perceptions of privately funded research
- **Strengthening Research Integrity**
- **Strengthening Research Ethics**
- **Policymaking**
- **Developing collaborative relationships within the eco-system of trust**



08

VERITY's Eco-systemic approach

In the context of contemporary expansion within the Eco-System:

- Building a **Science-Society Relationship**
- Demarcation of the **Roles of Stewards of Trust**
- **Transparency** and Clarity within the Ecosystem
- The need to strengthen networks between **traditional and non-traditional** Stewards of Trust

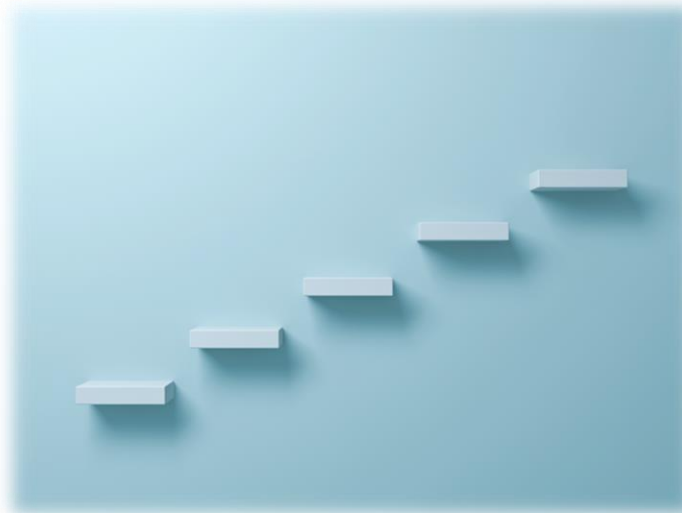
08 VERITY's Eco-systemic Recommendations

- **Which Stewards of Trust, in which ways, and at what level**
- **Long-term** perspective
- improve **the integrity of research** and **science-society relationships** across the Ecosystem of Trust
- **Collaboration** in the Development of Emerging Technologies and AI
- **Collaboration** During Crises and Emergencies
- Raising **Awareness of Ethics** within the Ecosystem
- Developing **Healthy Relationships** Between Research Organisations and their Researchers



09 Next steps

- **Co-creating recommendations for Stewards of Trust**
 - Co-creation workshops Autumn 2024
 - Social Media Experiment Winter 2025
 - Scenario-building workshop for validation Spring 2025
 - Final conference



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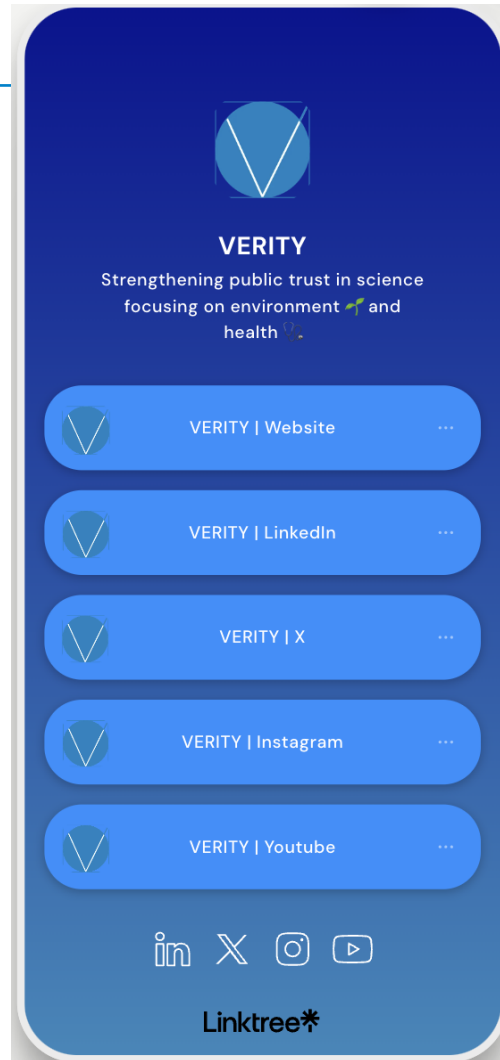
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