Identifying Training Needs for Research Ethics Committees

Eleni Spyrakou

National Technical University of Athens (NTUA)

Bernd Stahl, Etienne Aucouturier, Tom Lindemann, Maria Maia, Ana Marušić, Antonija Mijatović, Elahe Naserianhanzaei, George Ogoh, Anais Resseguier

8th WCRI, Athens, 2-5 June 2024

The background: irecs in a nutshell

- irecs: improving Research Ethics Expertise and Competencies to Ensure Reliability and Trust in Science

- Horizon Europe, 2022-2025

- Scan and map existing needs raised by new and emerging technologies in European and global research ethics communities

- Produce and implement training materials for European and global audiences in research ethics communities

- Conduct and permanently establish training programmes

- Propose adaptations to the research ethics process in Europe

- Selected technologies: XR, AI in healthcare and healthcare applications, Genome editing (including human and non-human applications), Biobanking

Funded by
the European Union

The problem

- Research ethics committees (RECs) are increasingly required to assess applications that make use of or build on new and emerging technologies.

- New ethical concerns which can be difficult to predict and assess, putting new requirements on RECs.

- RECs members: from diverse backgrounds, aim to include subject experts in the fields of their remit.

- Subject expertise: increasingly difficult to be provided in light of rapid advances in scientific knowledge and technological capabilities.

The problem

How to ensure subject expertise?

The solution

By injecting missing knowledge and expertise into the RECs via specific training interventions.
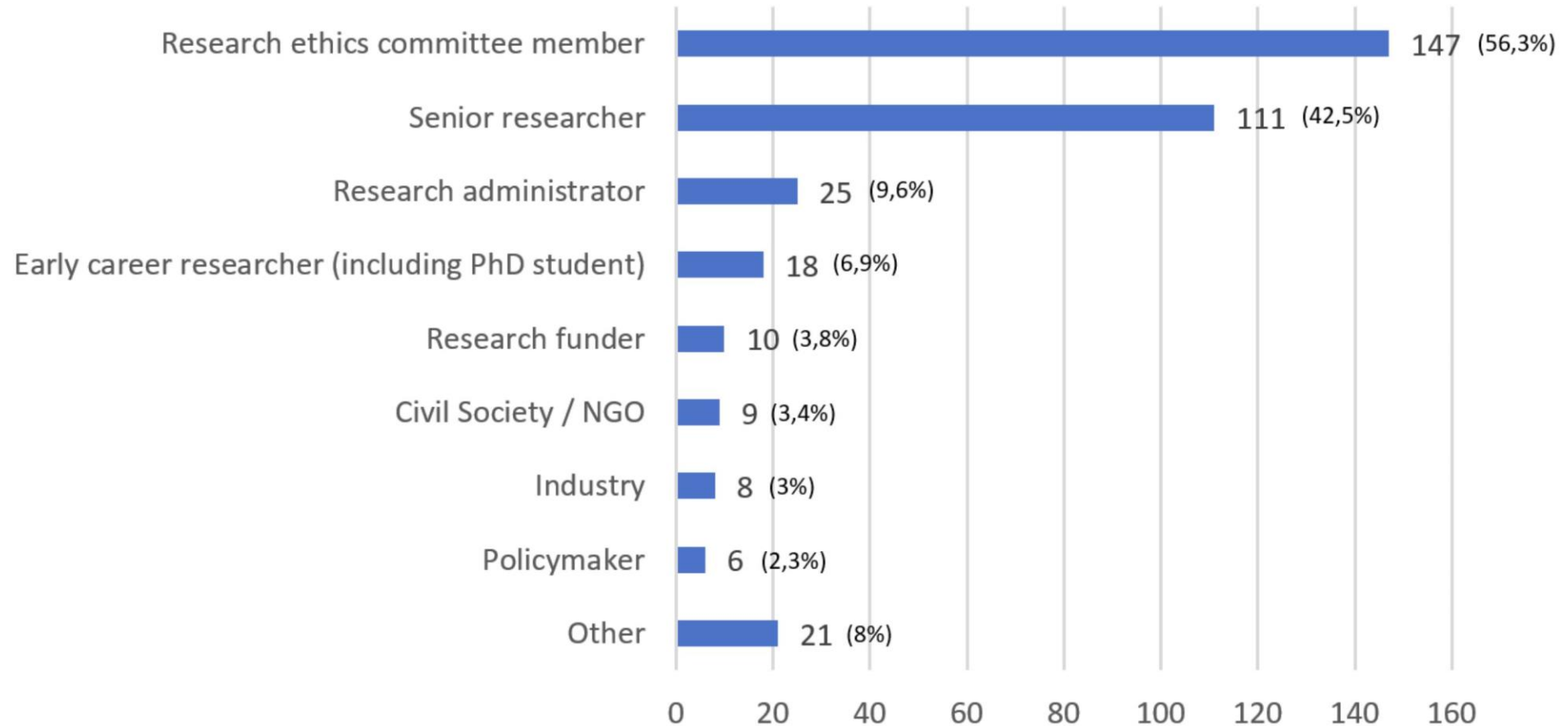
The problem

- **Which training needs** need to be addressed to allow ethics review procedures to appropriately deal with the most pressing current developments?

- This question requires an understanding of **who** has such training needs, what **subject areas** the training is required in and the **context and level of detail** that is required for ethics processes to work.
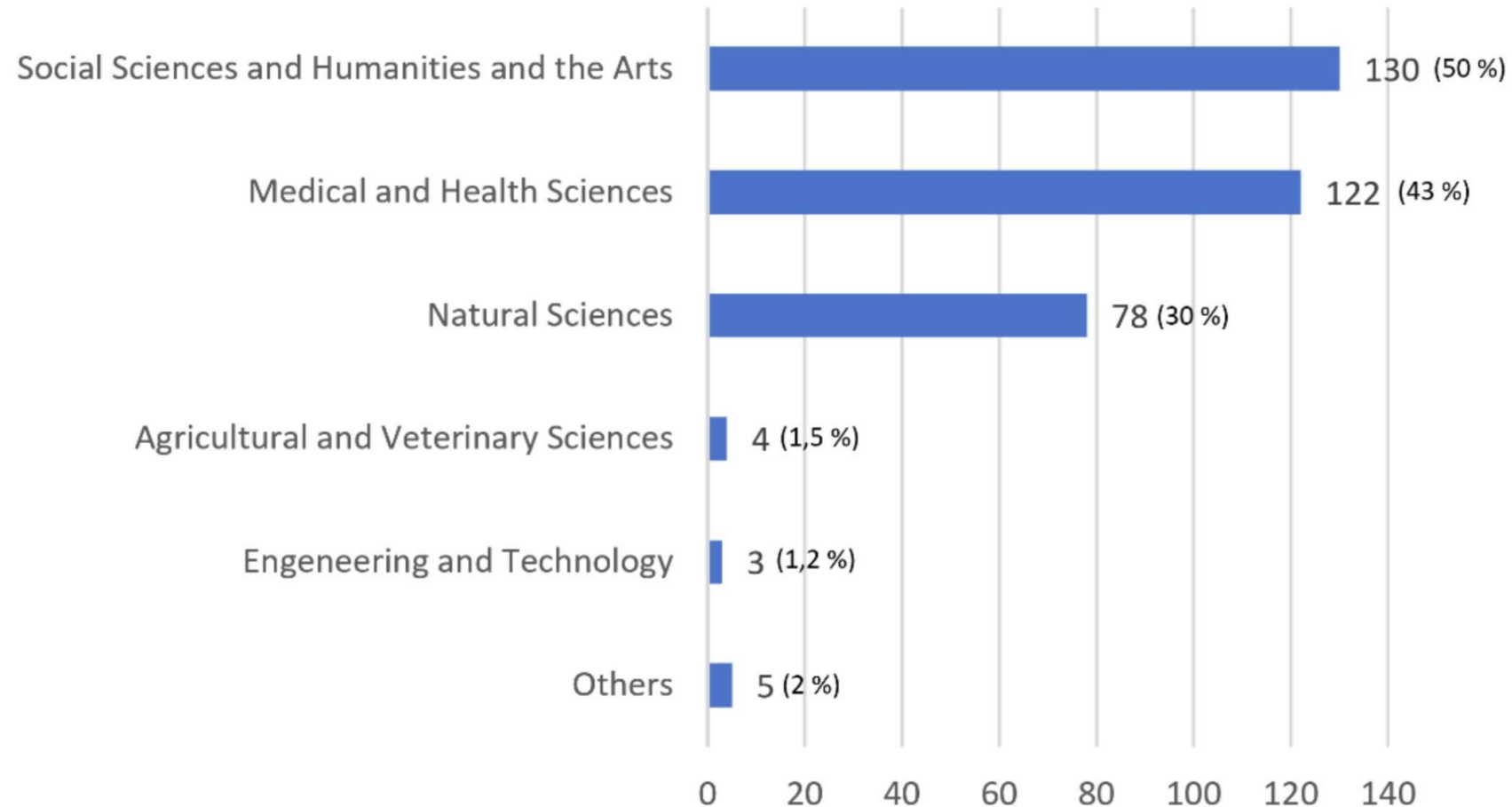
Identifying training needs

- Online survey that was sent out to REC members and researchers in December 2022 to identify their training needs

- 283 responses

- there are discernible differences in terms of perceived training needs, which allow for the planning of more formal training programmes geared towards the needs of RECs and their members to ensure that they can appropriately cover ethical questions arising from these technologies.

Characterisation of respondents by stakeholders' group

Research ethics committee member — 147 (56,3%)
Senior researcher — 111 (42,5%)
Research administrator — 25 (9,6%)
Early career researcher (including PhD student) — 18 (6,9%)
Research funder — 10 (3,8%)
Civil Society / NGO — 9 (3,4%)
Industry — 8 (3%)
Policymaker — 6 (2,3%)
Other — 21 (8%)

Characterisation of respondents by field of R&D

Social Sciences and Humanities and the Arts — 130 (50 %)
Medical and Health Sciences — 122 (43 %)
Natural Sciences — 78 (30 %)
Agricultural and Veterinary Sciences — 4 (1,5 %)
Engeneering and Technology — 3 (1,2 %)
Others — 5 (2 %)

Expertise overlapping of respondents
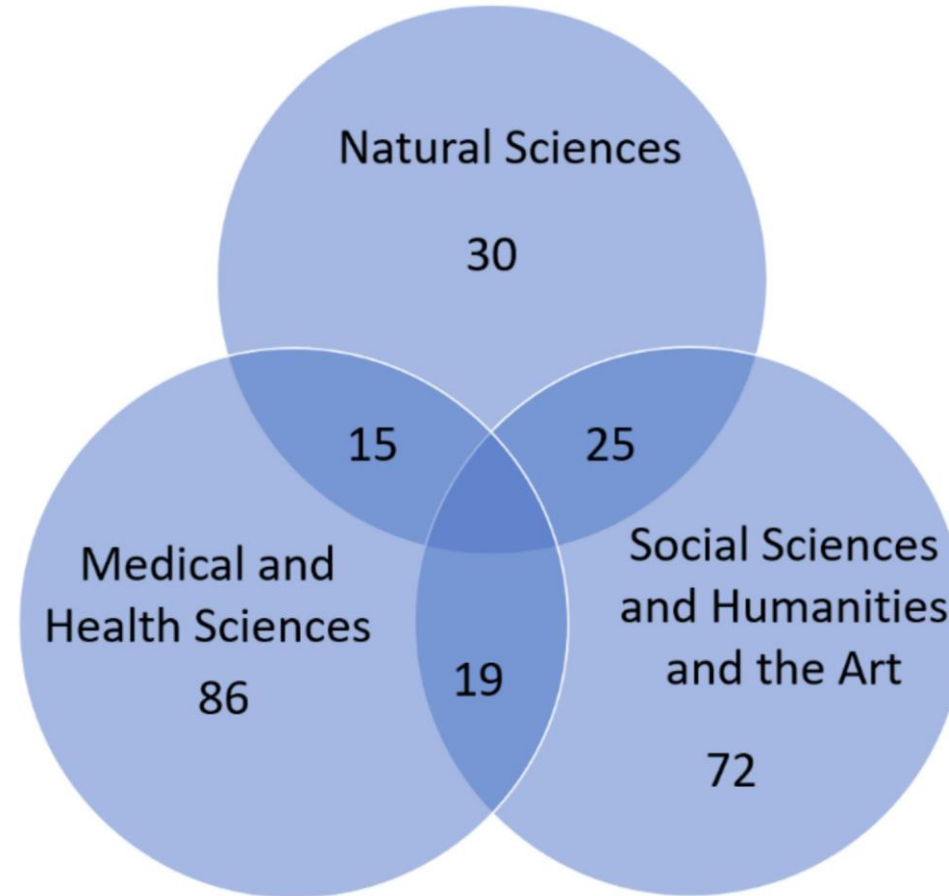
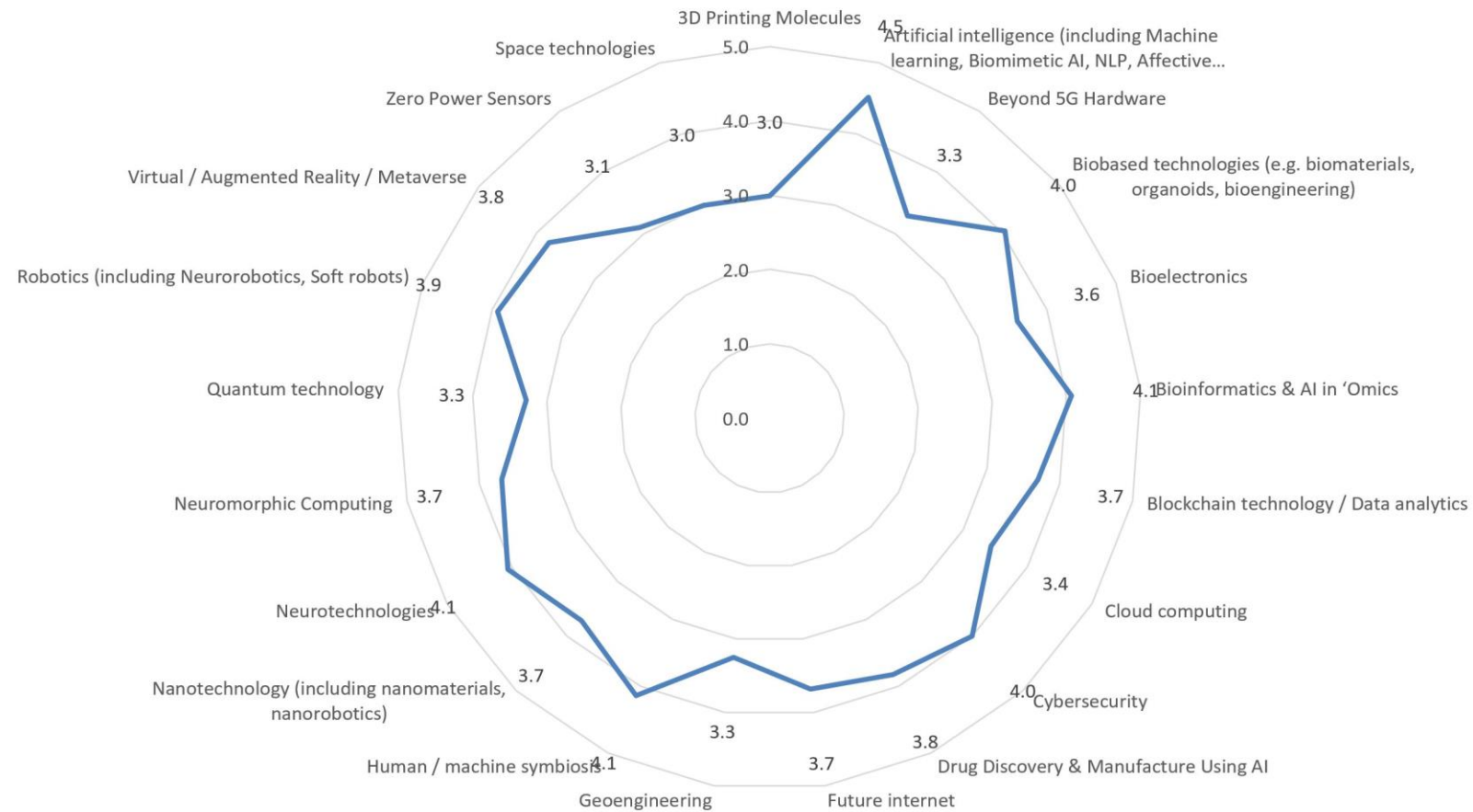# Respondents' preferred level of granularity of trainings for ethics experts

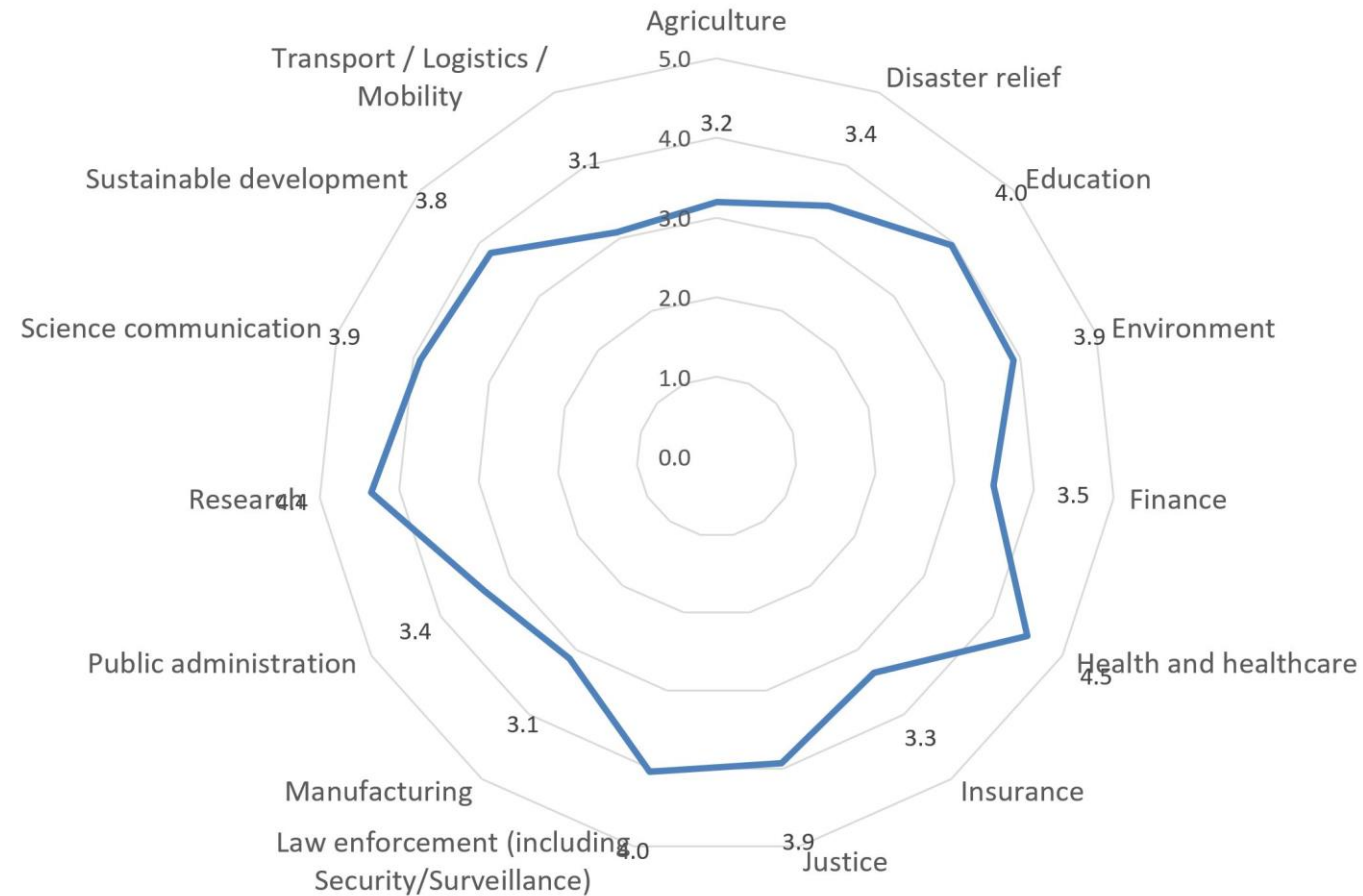- ■ Application of a technology in a broad area
- ■ Broad technology family
- ■ Specific application
- ■ More specific member of a technology family
- ■ Other
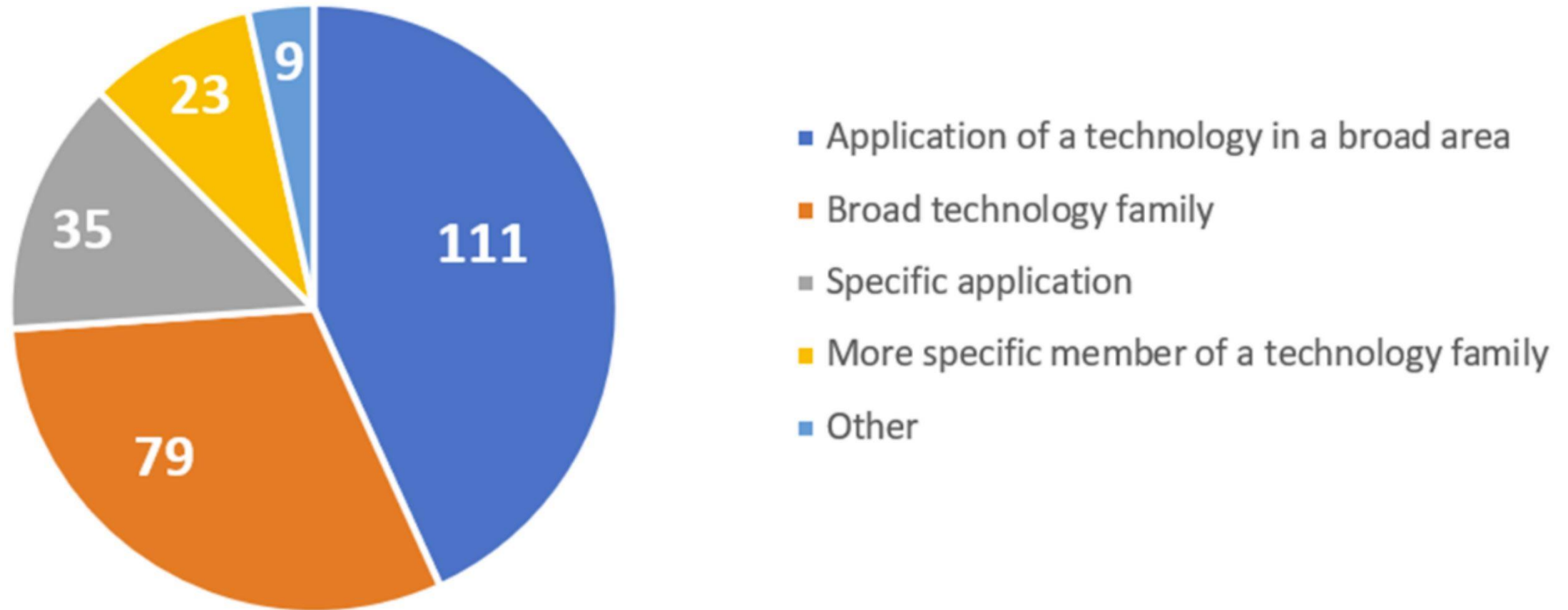
Radar diagram of perceived relevance of different technologies

Need for research ethics resources and training

Technology	Score
Artificial intelligence (including ML, Biomimetic AI, NLP, Affective computing)	4.5
Human / machine symbiosis	4.1
Bioinformatics & AI in 'Omics	4.1
Neurotechnologies	4.1
Biobased technologies (e.g. biomaterials, organoids, bioengineering)	4.0
Cybersecurity	4.0
Robotics (including Neurorobotics, Soft robots)	3.9
Drug Discovery & Manufacture Using AI	3.8
Virtual / Augmented Reality / Metaverse	3.8
Nanotechnology (including nanomaterials, nanorobotics)	3.7
Blockchain technology / Data analytics	3.7
Neuromorphic Computing	3.7
Future internet	3.7
Bioelectronics	3.6
Cloud computing	3.4
Beyond 5G Hardware	3.3
Quantum technology	3.3
Geoengineering	3.3
Zero Power Sensors	3.1
Space technologies	3.0
3D Printing Molecules	3.0

Radar diagram of needs for specific ethics resources and training

Need for specific ethics resources and training, for specific application areas

Application area	Rating
Health and healthcare	4.5
Research	4.4
Law enforcement (including Security/Surveillance)	4.0
Education	4.0
Justice	3.9
Environment	3.9
Science communication	3.9
Sustainable development	3.8
Finance	3.5
Disaster relief	3.4
Public administration	3.4
Insurance	3.3
Agriculture	3.2
Manufacturing	3.1
Transport / Logistics / Mobility	3.1
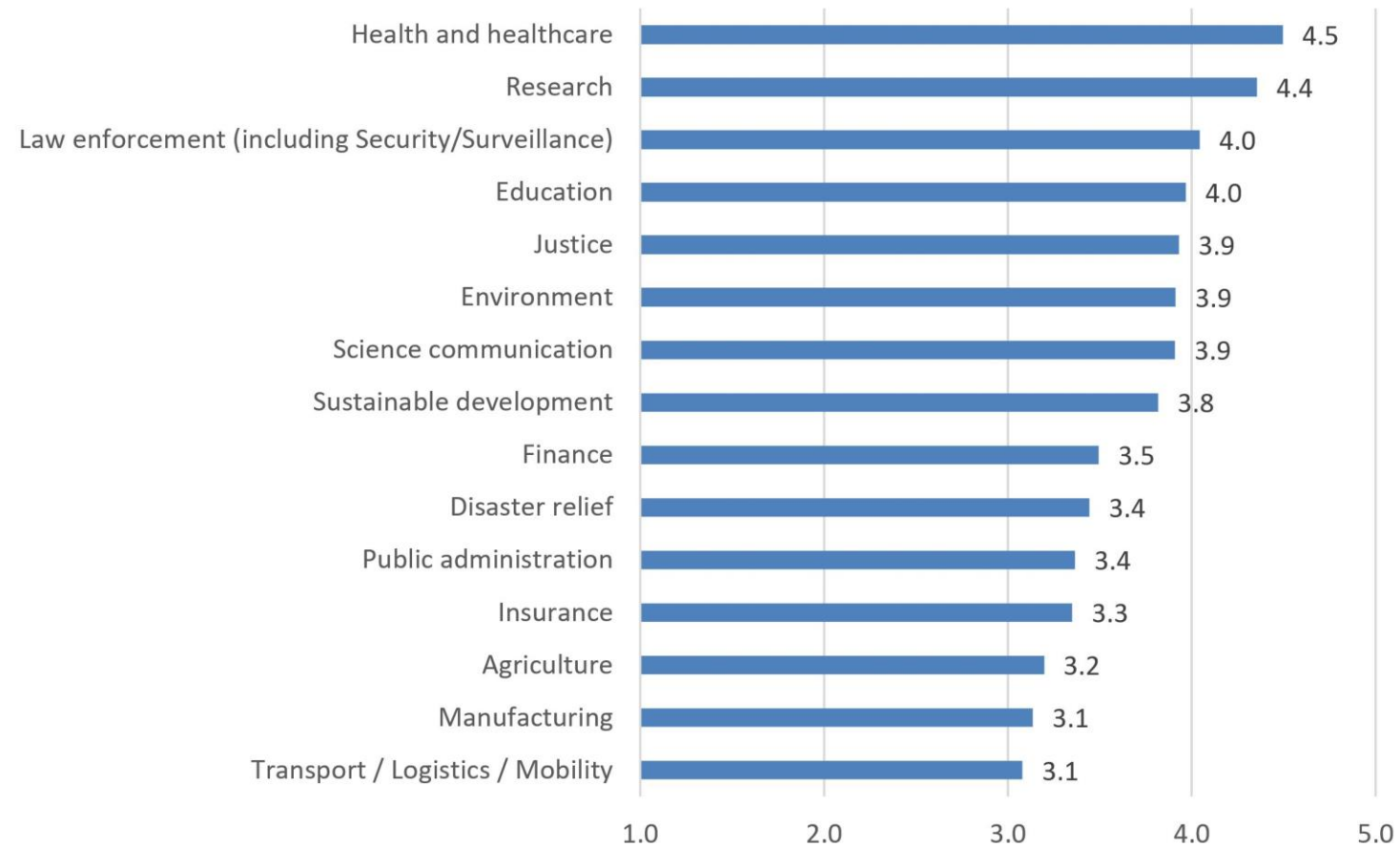
Contribution - Conclusion

- Description of a large-scale survey of REC members and related ethics experts to understand the knowledge gaps and potential training needs that these experts perceive. It thus makes an important contribution to the research on research ethics and the various processes employed for purposes of research ethics assessment.

- There are perceived gaps in knowledge and training needs that would help inform the work of RECs. In addition, it provides pointers to what these gaps are and which knowledge needs are present.

Thank you for your attention.

Σας ευχαριστώ.