KREATIVE METHODEN IN DER POLITIKBERATUNG

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ITAS 2024, Wissen für die Politik

FORSCHUNGSINTERESSE

Welches Wissen birgt die kreative Spekulation über Zukünfte?

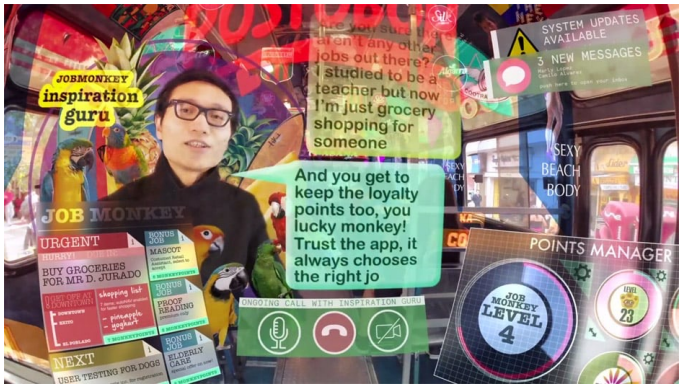
#Imaginationsforschung

KREATIVE METHODEN & ZUKUNFTSFORSCHUNG

Experiential Futures, Speculative Design, Design Fiction, Sci-Fi Prototyping

Marco Janssen – DryLab 2023 (2017)

Ai Hasegawa – I Wanna Deliver a Shark (2011)



Keiichi Matsuda – Hyper-Reality (2016)

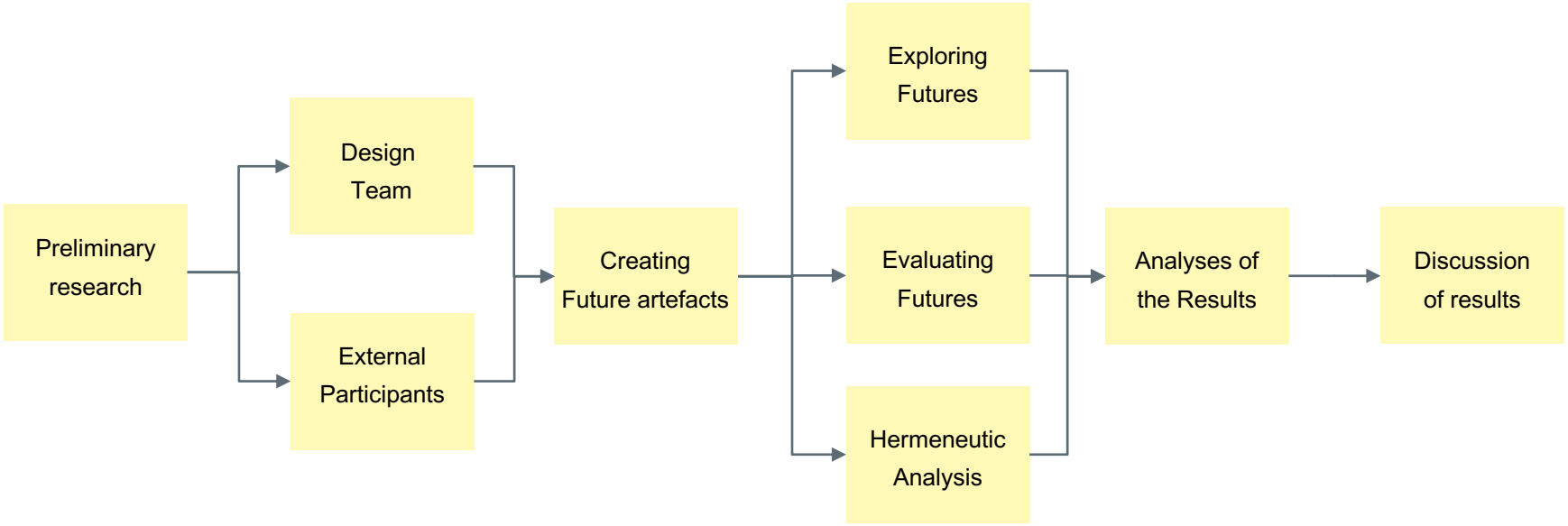
ANALYTISCHES / METHODISCHES FRAMEWORK

Need: Eine verlässliche und **einheitliche Terminologie** zur Beschreibung kreativer Methoden, ihrer Ergebnisse und dessen, was sie bewirken sollen und was sie bewirken können.

Need: Gemeinsame Parameter, die das Gespräch zwischen **Kunden und Kreativen** leiten können, um die **Erwartungen aufeinander abzustimmen**.

Need: Ein Modus zur **Bewertung kreativer Zukunftsmethoden** und ihres Outcomes, der Projektübergreifend funktioniert kann.

VERSUCH EINER SYSTEMATISIERUNG



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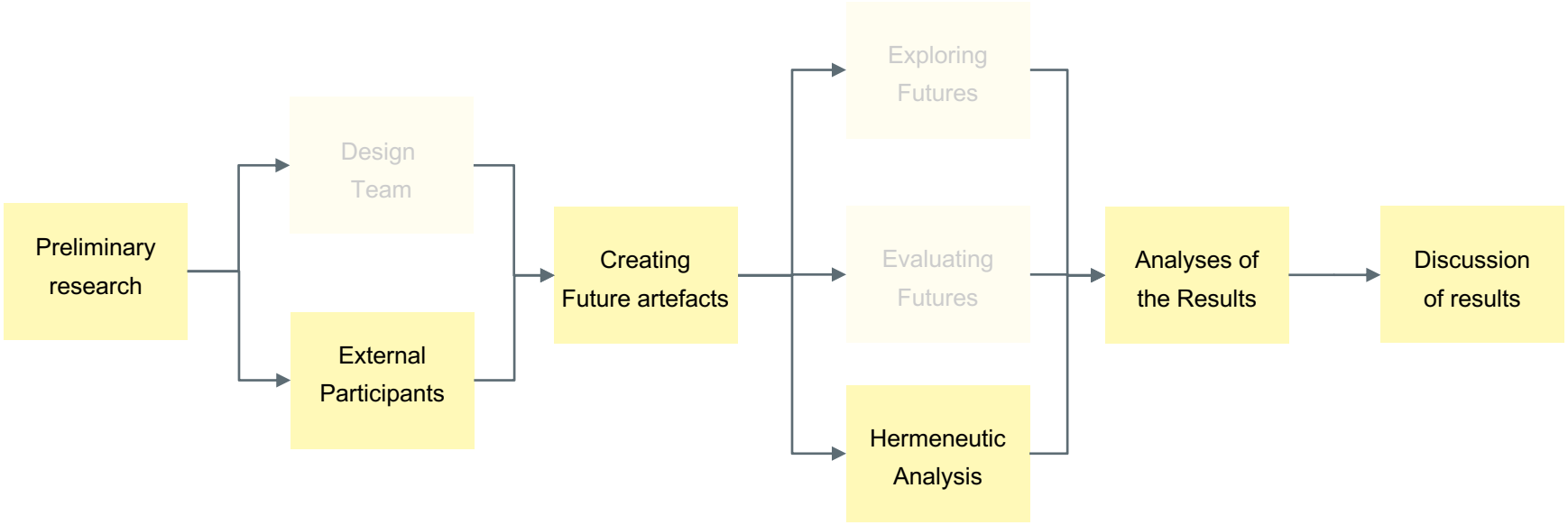
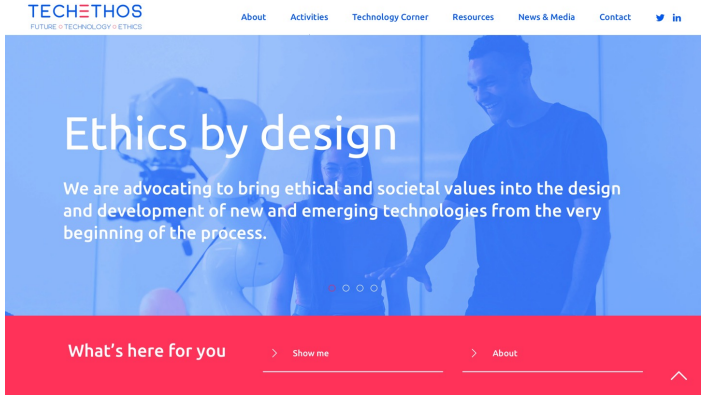


CASE STUDY: TECHETHOS (2020 - 2023)

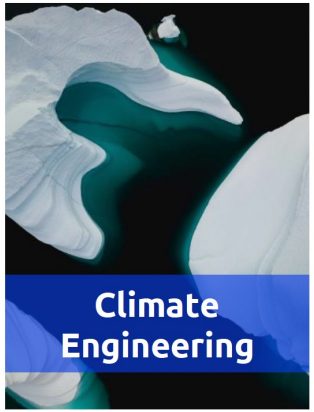
- Horizon 2020
- Emergierende Technologien bringen eine Reihe potenzieller **ethischer Herausforderungen und gesellschaftlicher Folgen** mit sich.
- Projekte zur Ermittlung ethischer Herausforderungen konzentrieren sich häufig auf eine **begrenzte Anzahl von Experten**, beziehen aber das Wissen der Bürgerinnen und Bürger nicht mit ein.
- Wie können wir zukunftsweisende Aktivitäten eröffnen, die Perspektiven der **Bürgerinnen und Bürger einbeziehen** und ihre ethischen Bedenken gezielt erheben?

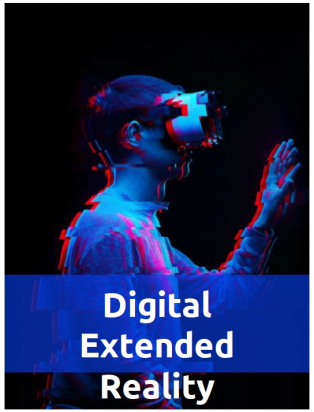


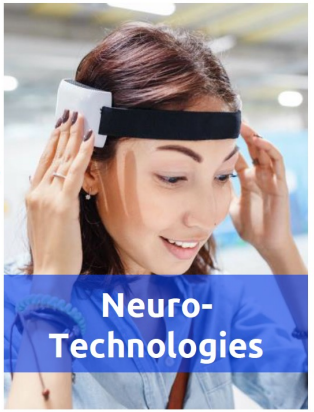
https://www.techethos.eu

PHASE 1: DEFINING THE TOPIC

- Drei Technologiefamilien
- Vorrecherche zu ethischen Herausforderungen, Szenario Entwicklung mit Experten

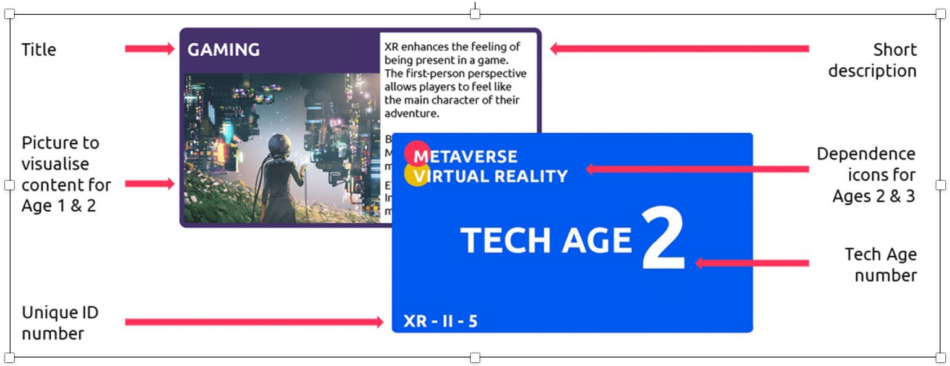






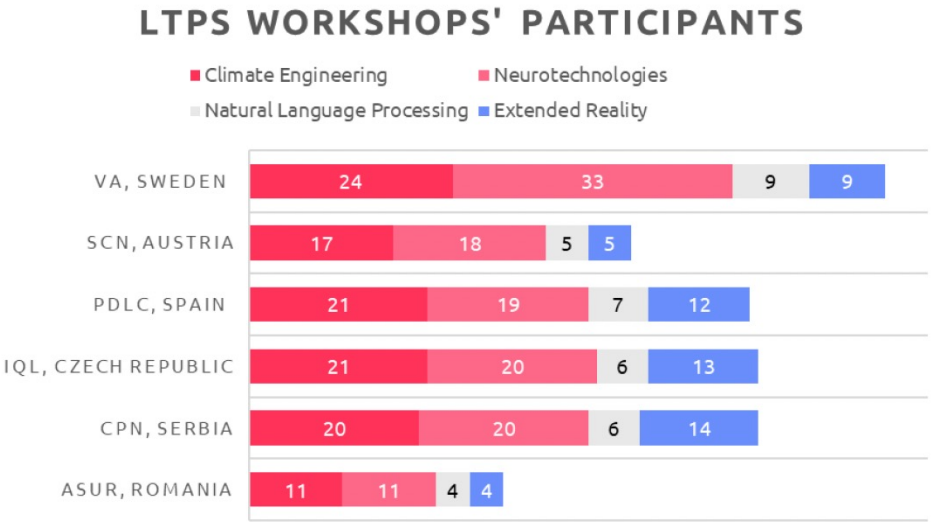
PHASE 2: EXPLORATION

- TechEthos Game: Ages of Impact
- Citizen World Council
- „Es wird Ihre Aufgabe sein, zu entscheiden, welche technologischen Entwicklungen **eine bessere Zukunft ermöglichen**.“



PHASE 2: EXPLORATION

- 20 workshops (Dec 2022 – March 2023)
- 6 countries (Austria, Czech Republic, Romania, Serbia, Spain, Sweden)
- 331 participants
- Aufbau:
  (1) Einführende Aktivitäten
  (2) Spiel
  (3) Nachbesprechung & Reflexion



PHASE 3: ARTEFAKTE

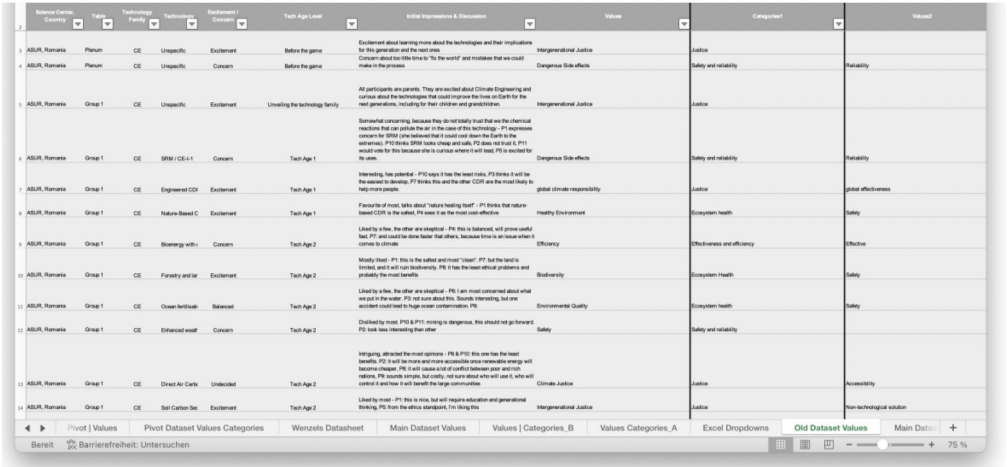
- Kurzgeschichten über die veränderte Welt
- Transkripte der Diskussionen über die veränderte Welt

“Neo wakes up when his implanted chip sends a small impulse to his brain. He is happy to be alive and enjoys every single day. He used to be totally blind and only now, in his old age, is able to see the world he lives in. The recent developments in tech have given him the ability to see his family and friends, his house and all the world around him. He lives in a high-tech neighbourhood like those from the SF audiobooks he used to listen to when he was a teenager. Everyone he knows has at least one enhancement operation done over the years. Some for health reasons, some for cosmetical uses. The people that develop the newest techs are the richest in the world and have a lot of economical and political power to change the world, for better or worse. Sometimes he thinks that he was lucky to live in this era, because the future scares him a bit. He was fortunate enough to enjoy the new development in a period when the laws were made for the good of the people and the tech companies and state leaders were kept in check through legal methods by the people. But all the enhancements done over the years have reduced the people's interest in autonomy and the young ones are willing to give up their data and their power of decision to those who provide the newest techs at the lowest prices. But for now Neo chooses to focus on the good. Like the fact that he can project and print toys for his grandkids. Or that he can see his wife happy again, after she got the treatment that saved her from early onset dementia. They do their best to remain active, to use to the maximum the time they have left on this planet."

PHASE 4: ENGAGING

- 773 Statements aus den Diskussionen
- *“Companies can have essential data on individuals that serve to give them more control over them while individuals lose control over their personal data.”* (Comment 8, XR)
- *"People will lose their jobs (…)“* (Comment 103, NLP)
- *"... relieving people of mundane repetitive jobs.“* (Comment 422, NLP)

country tech family technology comment codes



PHASE 5: ANALYSES

- Welche Einstellung haben die Teilnehmer zu den Technologien?
- **Die Teilnehmer sind der Technologie aufgeschlossen, wenn [X] gewährleistet ist und wenn [Y] verhindert werden kann**
- Clustering von Werten

  - 450+ codes
  - 25 Kategorien

PHASE 6: DISCUSSION

- Drei übergreifende Themen

- **Equity**
  - Erschwinglichkeit der Technologie und gerechte Verteilung des Nutzens
  - Marktstörungen könnten die Machtdynamik zugunsten der KI entwickelnden Unternehmen verschieben
  - Anerkennung von Lizenzen und Urheberschaft sowie gerechte Verteilung des Nutzens in der Gesellschaft

- **(Re)liability**
  - Datenrechte und verantwortungsvolle Nutzung der gesammelten Daten werden wichtig.
  -Vertrauen in Visionen und Rechenschaftspflicht der Unternehmen für Versprechen (z.B. technische Lösung für ein soziales Problem)
  - Zentrierung der Entwicklung auf den Menschen gegenüber den Einnahmen der Unternehmen aus der Technologie

- **Environmental sustainability**
  - Anstieg der CO2-Emissionen durch Infrastruktur für die Ausbildung von LLMs und die Speicherung von Daten
  - Ressourcen- und Entsorgungsprobleme (z.B., zunehmender Abbau seltener Erden oder Giftmüll)

PHASE 6: DISCUSSION

Policy Brief

Key messages for the ethical governance of neurotechnologies

TECHETHOS
FUTURE ○ TECHNOLOGY ○ ETHICS

Highlights

To ensure responsible, just and sustainable development of neurotechnology, the Horizon 2020-Funded TechEthos project encourages the European Union (EU) policymakers to champion principles of autonomy and dignity, privacy, justice, interoperability, and environmental regard in legal, regulatory, and guidance reforms.

Who is this for?

This brief seeks to inform EU policymakers and officials involved in the preparation of legislative or policy initiatives related to **neurotechnologies**, **medical devices, dual use items, privacy and data protection**, and **systematic algorithmic learning** and **machine inference systems**.

Background

Neurotechnology encompasses research, development and use of devices with the potential to directly access, monitor, investigate, assess, manipulate, and/or emulate the structure and function of the neural systems of natural persons. Neurotechnologies hold the potential to enhance healthcare and quality of life in relation to a range conditions, including Parkinson's and Alzheimer's diseases, mental health, stroke and trauma recovery, and prosthetics. Such medical applications, as well as speculated applications for human enhancement, labour management, and legal determinations, present a range of social, ethical, and legal challenges and questions.

Ethical issues accompanying neurotechnologies raise questions of use, notably medical treatments versus human enhancement (e.g., neurogaming, neuroeducation, neuromarketing). In either case, issues may arise of discrimination based on neurological ability or inequality of access to beneficial medical interventions or enhancements. Questions of data privacy and data security also tie to neurotechnology applications, as do concerns regarding testing of prototypes in animal and human subjects, device material sourcing and energy consumption. Issues of responsibility of companies and governments to people dependent on neurotechnological devices must be clarified. At a more abstract level, questions of non-manipulation, cognitive privacy, questions and stigmatization about what it means to have a brain function in "the right way," and definitions of the human-self arise.

The ethical values and principles identified below, drawing on the range of social, ethical, and legal analyses carried out in the TechEthos project, intend to inform regulatory developments and European investments in neurotechnology and ensure better alignment of the technology with societal concerns.

TechEthos receives Funding from the EU H2020 research and innovation programme under Grant Agreement No 101006249. This output reflects the views of the authors. The Research Executive Agency and the European Commission are not responsible for any use which might be made of the information contained herein.

Policy Brief

Key messages for the ethical governance of Carbon Dioxide Removal (CDR)

TECHETHOS
FUTURE ○ TECHNOLOGY ○ ETHICS

Highlights

To ensure responsible, just and sustainable development of Carbon Dioxide Removal (CDR), the Horizon 2020-Funded TechEthos project encourages European Union (EU) policymakers to:

- **Clarify the implications of existing EU principles for the implementation and governance of CDR**, in particular the Do No Significant Harm (DNSH) principle and the Leave No-one Behind (LNOB) principle;
- Clarify how CDR can be implemented by EU member states in **accordance with the UNFCCC's principle of Common But Differentiated Responsibilities and Respective Capabilities** (CBDR-RC). Since the CBDR-RC includes the Polluter Pays Principle (PPP) and the Ability to Pay Principle (APP), the role of the fossil fuel industry in CDR deployment requires scrutiny;
- Clarify how CDR can be implemented by EU member states in **accordance with the EU's Biodiversity Strategy 2030**, especially the potential for 'nature-based' forms of CDR;
- Establish effective CDR governance to **ensure fair and sustainable implementation** of CDR across the EU and CDR suppliers beyond the EU, especially for biofuels;
- Consider how CDR can be implemented by EU member states in **accordance with norms of procedural justice**, including the All Affected Principle (AAP), in decision-making concerning the siting locations of CDR facilities;
- Consider how CDR can be implemented by EU member states in **accordance with norms of global distributive justice**, with a focus on avoiding harmful impacts upon non-EU nations, and especially in low and middle income countries.

Who is this for?

This brief seeks to inform **EU policymakers** and **officials** involved in the international coordination of climate policy and the coordination of research ethics. In addition to these core targets, the brief will also be of interest to Intergovernmental Organisations including **agencies of the UN system, national governments, research funders** and **research policymakers** at both the national and international levels, and **research organisations**.

Background

CDR is already part of many national climate mitigation strategies. Some techniques, such as carbon sequestration in agriculture, may benefit both climate mitigation and agricultural productivity, and be cost-neutral. Some forms of CDR, such as Direct Air Capture with carbon capture and storage (DACCS), show few environmental side effects, but are limited by very high unit costs. Other forms of CDR, such as Bioenergy

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Policy Brief

XR and General Purpose AI: from values and principles to norms and standards

TECHETHOS
FUTURE ○ TECHNOLOGY ○ ETHICS

Highlights

Highlights

The TecHEthos project focused its ethical analysis on eXtended Reality and Natural Language Processing (NLP) within the larger context General Purpose Artificial Intelligence (AI). AI has already been broadly implemented for a variety of purposes, applications and services, from simple data collection and analysis to sophisticated, human-like operations. The types of use open completely different scenarios in terms of ethical risks. We focus here on two specific aspects:

- An AI system can be outfitted with language capabilities and an avatar representation, both of which raise a problem of indistinguishability between human likeness/language and machine simulation thereof;
- Personal data and biometric data collected via XR devices is used for training next-generation general-purpose AI, such as emotional AI systems or chatbots that efficiently nudge people toward desired behaviour.

Who is this for?

This policy brief seeks to inform those involved in the governance and development of XR technologies and general purpose AI, and is primarily aimed at **EU policymakers** and **tech developers.**

Background

Values and high-level principles are not enough for AI regulation

Ethical issues of AI systems are usually formulated through the lens of values and principles. However, European policy makers should go beyond merely listing such values and principles, because manufacturers may not immediately understand how to implement them in the design of AI systems. For the proposed EU regulation to be effective, we offer an operationalization of the values and principles in the form of suggested norms and standards. Here, we list new and emerging issues to supplement, enhance and update the Assessment List for Trustworthy Artificial Intelligence (ALTAI) developed by the High-Level Expert Group on AI.

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TAKE AWAY

- Kreative Methoden werden manchmal als Mittel für "alles Neue" überbewertet
- Kreative Methoden werden manchmal als Mittel zum "Schönmachen" unterschätzt
- Es bedarf eines besseren Verständnisses der verschiedenen Überschneidungen zwischen Foresight, Designansätzen und Innovationspolitik
    - … in dem Beispiel helfen kreative Methoden, die Vorstellungen von TeilnehmerInnen offenzulegen

VIELEN DANK!

AUSTRIAN INSTITUTE OF TECHNOLOGY
TOMORROW TODAY

Buchinger E, Mehnert W, Csabi A, Nishi M, Bernstein MJ, Gonzales G, Porcari A, Grinbaum A, Adomaitis L, Lenzi D, Rainey S, Umbrello S, Vermaas P, Paca C, Alliaj G, Whittington-Davis A (2023). **D3.1 Evolution of advanced TechEthos scenarios**. TechEthos Project Deliverable to the European Commission. Available at: www.techethos.eu

Wenzel Mehnert, Michael J. Bernstein, Steven Umbrello, Alexandra Csabi, Masafumi Nishi, Renata Mandzhieva, Greta Alliaj, Pieter E. Vermaas; **Ethical Playgrounds: Unveiling a Serious Game for Technological Ethics within the TechEthos Project** (forthcoming)

https://www.**techethos**.eu

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