UNGDOMSBUREAUET

2023

THE FUTURE OF TECHNOLOGY, YOUTH & DEMOCRACY

A FUTURISTIC GUIDE ON HOW TO UTILISE THE DEMOCRATIC POTENTIAL OF DANISH YOUTH IN OUR TECH-POLITICAL DIALOGUES

THE FUTURE OF TECH-NOLOGY, YOUTH & DEMOCRACY

A futuristic guide on how to utilise the democratic potential of Danish youth in our tech-political dialogues.

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INTRODUCTION

The future is not a static entity, it continuously unfolds in multifaceted forms. The attempt to grasp the future can be likened to trying to get a grip on slime. Just when you think you've got it, it creeps around in new and unexpected ways. Although the future may be difficult to grasp, we must strive to address it. The way we perceive the future reveals something about, how we fundamentally act and respond to anticipated futures.

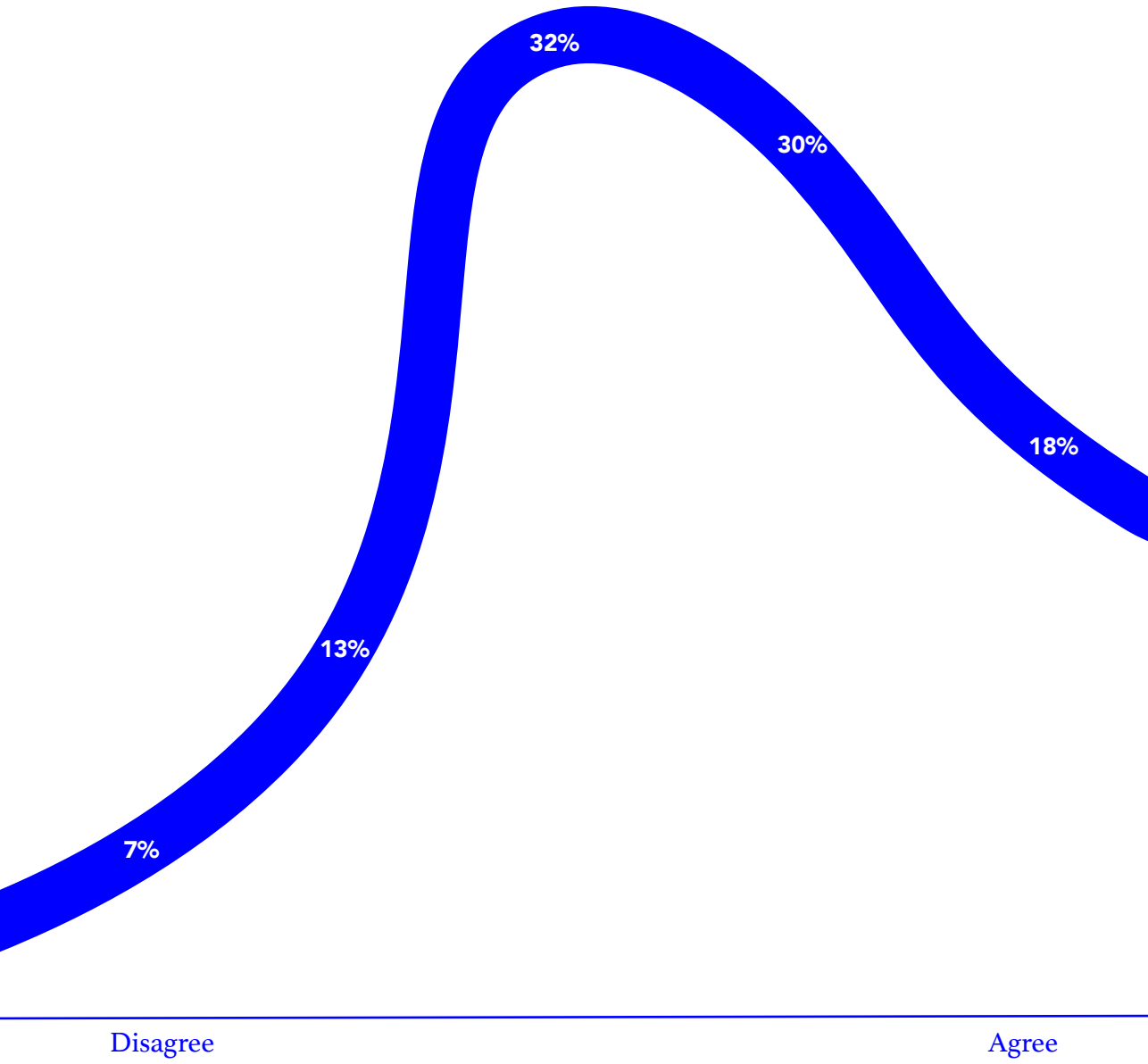
Looking more closely at the technological realities of the future, it is clear that technology is developing at an ever-increasing pace, which our democratic discourse is struggling to keep up with. Since the turn of the millennium, our technological realities have taken decisive new quantum leaps, and we are now faced with a generation of young people who have grown up simultaneously with these developments. This creates a new and unique position, where young people, by virtue of the circumstances in which they grew up, have an experience that other generations have not been able to acquire. It is therefore crucial that we create concrete conditions for young people to utilise their specific experience and expertise within technology into concrete democratic potential.

That is why we at the **UNGDOMS**BUREAUET over the past year have created a framework for dialogues on the technological realities of the future through the project *Future Generations Shaping Future Technology*. When we talk about future technologies, we specifically mean technologies[1] that create a convergence between our physical and virtual worlds and spaces. Technologies that, with their hybrid formats, create entirely new understandings of fundamental concepts such as reality and intelligence.

This report is a guide on, how we as a society should work with the intersection of youth, tech, and democracy. By I) outlining a 10-year roadmap for the technological realities of the future II) introducing concrete methods and work practices III) Opening up the conversation and making it present.

Enjoy the read.

»Our physical and digital realities have merged«



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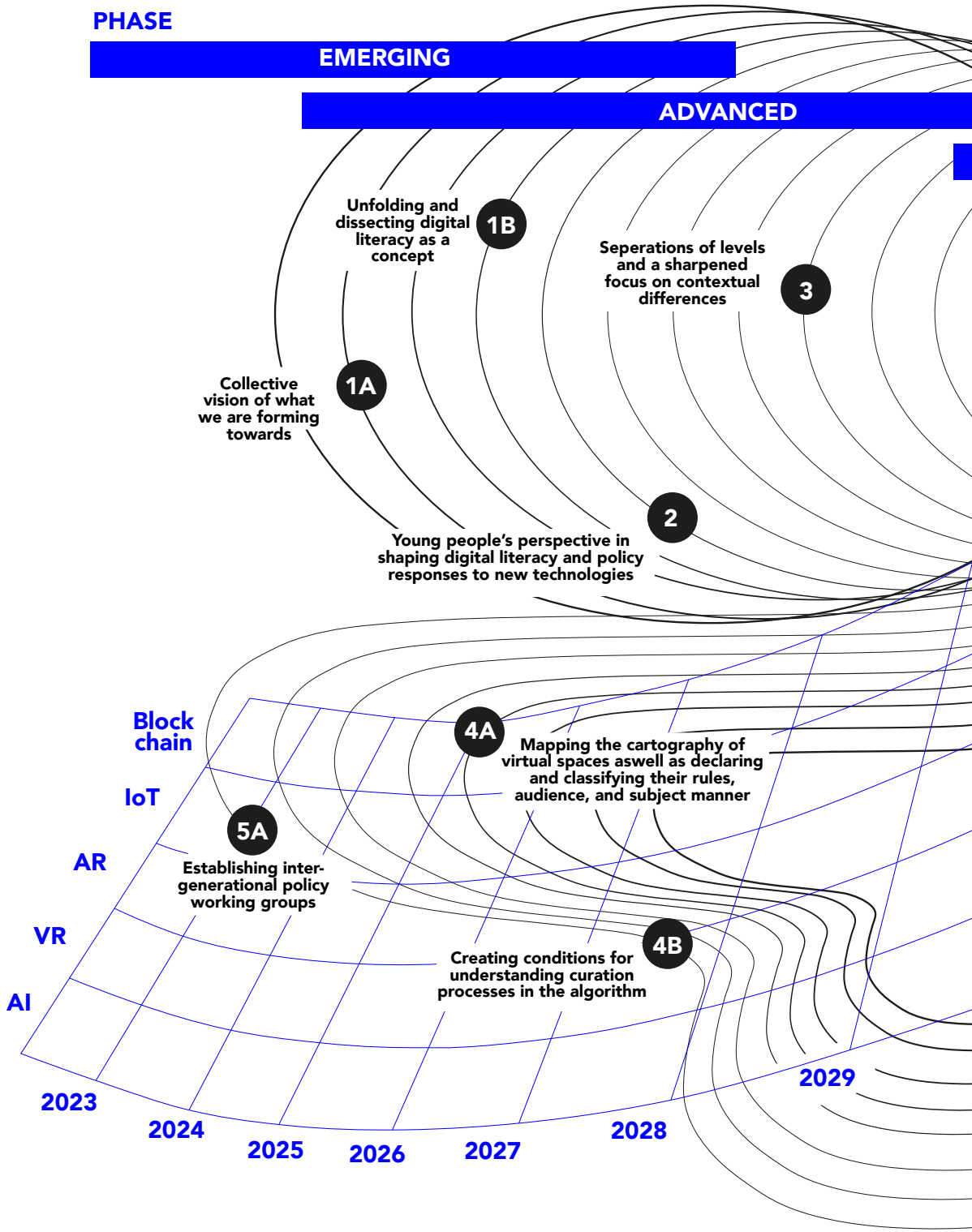
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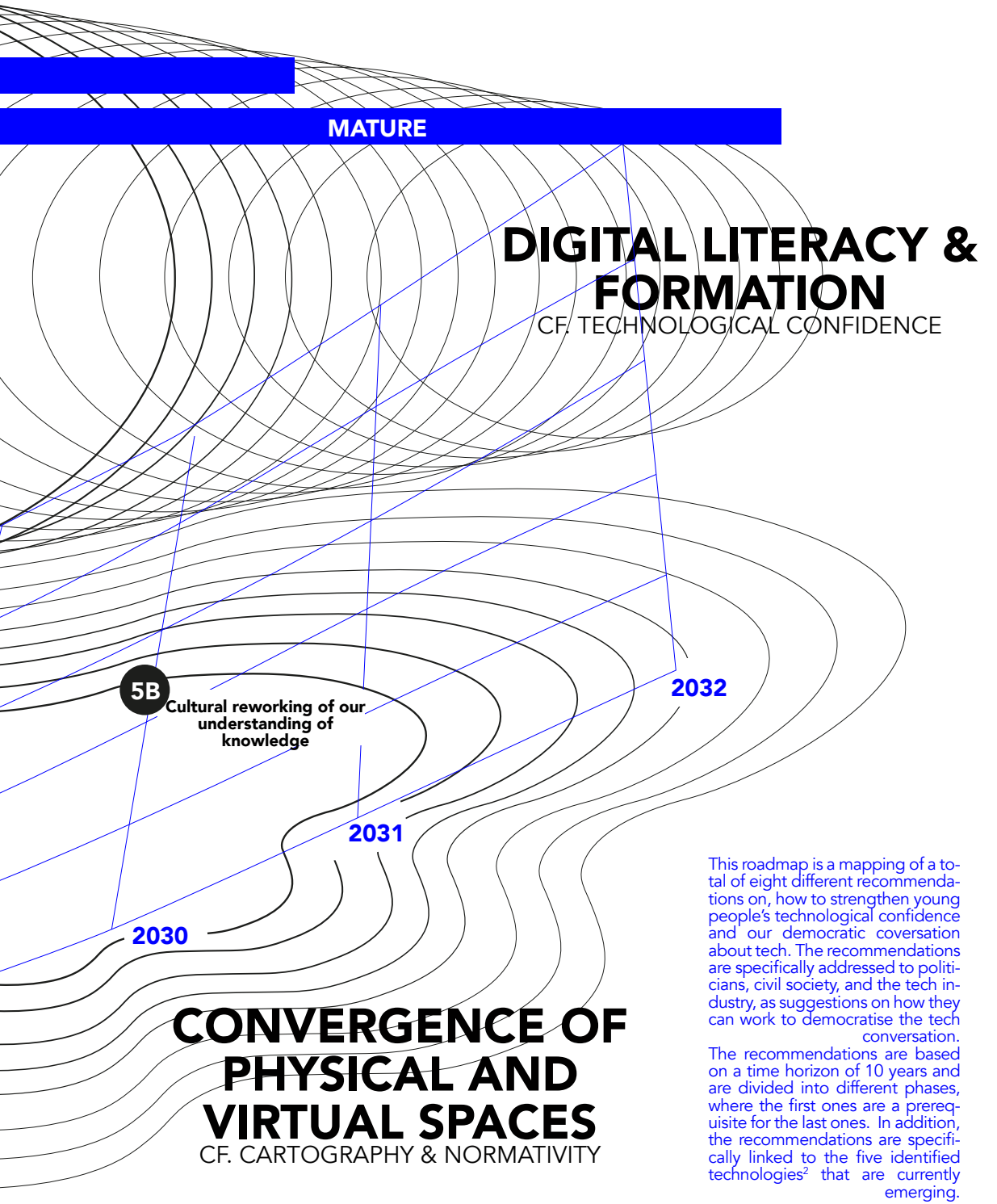


This roadmap is a mapping of a total of eight different recommendations on, how to strengthen young people's technological confidence and our democratic coversation about tech. The recommendations are specifically addressed to politicians, civil society, and the tech industry, as suggestions on how they can work to democratise the tech conversation.

The recommendations are based on a time horizon of 10 years and are divided into different phases, where the first ones are a prerequisite for the last ones. In addition, the recommendations are specifically linked to the five identified technologies[2] that are currently emerging.

02

10 YEAR ROADMAP OF THE FUTURE OF TECHNOLOGICAL REALITIES

When looking at youth, you see a glimpse of the future. Young people today are pioneers when it comes to embracing new technologies and interacting with ever new virtual worlds. In this way, youth are challenging and changing how we as a society approach and understand the role and place of technologies in society today.

However, when it comes to our democratic conversation about technologies and digital platforms, young people take up very little space. Often, the conversation about the technologies of the future becomes a question of oversea large-scale industries and concrete back-end systems and coding. But with this approach, we are maintaining a low level of technological confidence among young people, and as a result, young people do not feel that they can influence the technological realities of the future.

Although, more than half of Generation Z[3] claim that they feel more like themselves in virtual worlds[4], we rarely allow young people to utilize their particular insights on technologies for tangible democratic action.

Our understanding is that today's youth are key actors when it comes to shaping how our cultural practices with virtual worlds evolve. One example is that we continuously interact and engage with a meme culture shaped by young pioneers, or that we continue to embrace new forms of working such as creator-economy and content-creators. It is on the basis of this understanding and a year of research that we at **UNGDOMS**BUREAUET have created the following roadmap for how we, by involving and strengthening young people's technological confidence, also create the conditions for the technological realities of the future to become a little more tangible.

The roadmap is a snapshot that outlines, how we as a society should work with young people, democracy and technology over the next 10 years. The Roadmap is divided in two pathways:

Pathway 1: Digital literacy and formation
Pathway 2: Covergence of physical and virtual spaces

These pathways help us maintain a rigorous view on what efforts are needed to fundamentally utilize youth as a guardrail to navigate towards the technological realities of the future. The pathways and their recommendations are aimed at everyone working at the intersection of democracy, technology and youth engagement - from the tech industry, civil society, and politicians. The recommendations should be read as an illustrative and visionary approach to concrete structures and working methods that can translate young people's knowledge and experiences into democratic contributions in our tech policy conversations. The recommendations can be combined with **UNGDOMS**BUREAUET's overall methodology on how to ensure and support youth engagement[5].

Pathway 1: Digital literacy and formation

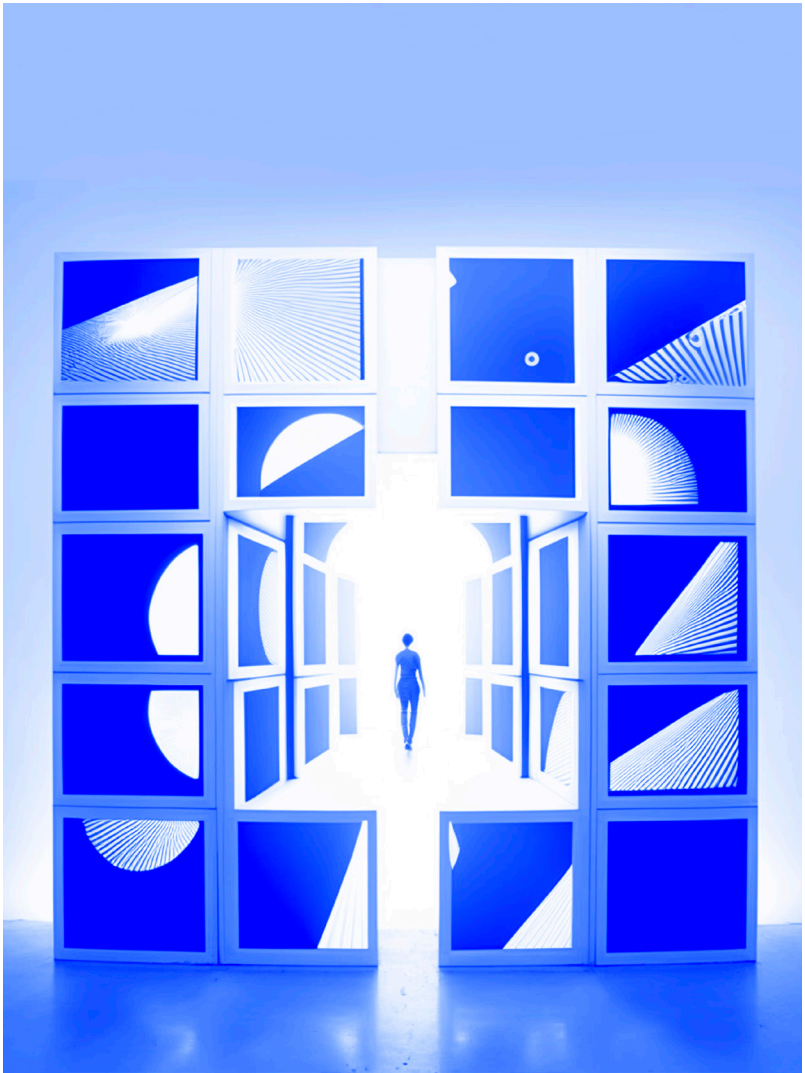
The following section address the concept of digital literacy and highlights the opportunities for young people to influence and access the conversation about tech and democracy. Overall, the pathway points towards four concrete recommendations:

1A Collective vision of what we are forming towards

1B Unfolding and dissecting digital literacy as a concept

2 Young people's perspective in shaping digital literacy and policy responses to new technologies

3 Separation of levels and a sharpened focus on contextual differences



Digital literacy has become a key concept when talking about young people, technology, and democracy. Digital literacy, as a concept, has continuously been actualised alongside the increasing use of technologies and digital tools in society. Most often, the concept is directly linked to the area of education and is related to children and young people - and considerations about how to prepare new generations to navigate in a digital world. Digital literacy refers to the need to establish a framework for the development of skills and the acquisition of knowledge to navigate in a virtual world. However, how do we frame what digital literacy should entail? And to what extent is it possible to formalise frameworks for digital literacy and digital understanding?

The emergence of the concept of digital literacy was in many ways a response to the challenges posed by the proliferation of digital technologies in society. Digital literacy became actualized during the transition from web1 to web2[6].

If we look at digital literacy in political spheres, the concept can largely be seen as the result of, how the political system symptomatically responds to the development of the tech industry, but there is also a need to ask whether the development of the tech industry should be the starting point for digital literacy? Or whether it is instead possible to clarify our collective notions of the relationship we want to see between democracy, the individual, and technologies - and let that shape tech policy initiatives.

Digital literacy serves as an umbrella term covering the need to formalise complex issues in order to create better conditions for individuals to navigate today's digital realities. In the desire to both formalise and develop the relevance of the concept, a large number of challenges, dilemmas, and questions arise. How can we delimit and define what digital literacy should include? And how can we take into account socio-economic inequalities and pre-existing digital divides when trying to create a collective framework on individual premises?

While it is a difficult task to set end goals as well as subgoals for digital literacy, we must nevertheless strive to be visionary and set out principles and actions that can support the constructive integration of new technologies. The recommendations are based on the need to define what we are forming towards when we talk about digital literacy.

1A Collective vision of what we are forming towards

We need to sharpen our collective understanding of the visions of what we are forming towards and why. At the societal level, we should distinguish between today's tangible issues and future visions of the relationship between society, the individual, and technology. This means that we should insist on letting ambitious visions guide, rather than letting concerns and fears be the primary starting point for the design of new policies. For example, fears about the impact of social media - on our physical and mental health - should not be a driving factor, but a point of attention in a larger vision for our future relationship with technologies.

In working to nuance what we are forming towards, we must also focus on raising awareness of inclusion and exclusion in decision-making processes and aim to create transparency about which principles and values are allowed to guide us when we set objectives for digital literacy. In addition, recognise and focus on linguistic accessibility, so that abstract visions can branch out and be adapted to various contexts and support concrete actions. Politically, we need to be visionary and take ownership of the futures we want to see. The future and the tech industry move in unpredictable ways - a point that must not stand in the way of hopes and potentials becoming key sources for framing our common future with technologies. Above all, we must dare to be ambitious in trying to realise the potential that lies at the intersection of new technologies, democracy and the individual.

1B Unfolding and dissecting digital literacy as a concept

We need to revisit the focus and approach to digital literacy itself and recognise the complexity of the concept - and then unpack key sub-concepts.

Digital literacy is very much about the competences and skills that are essential to navigate appropriately in a virtual world. Conversations on this topic range between a desire to be at the forefront of digitalisation and, on the other hand, a scepticism and awareness of 'uncontrolled' technological development and its consequences. Is it accurate to talk about digital literacy? Or should the current focus be referred to as digital education and seen as a means towards creating conditions for digital literacy?

Formation as a concept is linked to lived experiences and reflective practices, and to a significant extent, it can be said that formation is a subjective and individual process. If digital literacy is to flourish, it is crucial that we create conditions for us as citizens to become aware of the importance of literacy in relation to the virtual. In concrete terms, this means that we must see digital education as a catalyst and invitation for us as citizens to consider the importance of our digital literacy.

"At the societal level, we should distinguish between today's tangible issues and future visions of the relationship between society, the individual and technology."

2 Young people's perspective in shaping digital literacy and policy responses to new technologies

We need to shift from educating for young people to educating with young people and eventually even by young people. Young generations are the first to explore and adopt digital platforms and, by consequence, dominant users of digital platforms.

We need to ask ourselves what perspectives and experiences we are overlooking when we do not focus more on framing young people's perspectives. We need to bridge the gap between, on the one hand, a theoretical view and theoretical handling of new technologies - and, on the other hand, the practical experience that young people, in particular, rely on. Young people should be key actors in policy work on new technologies, so that there is an increasing link between outlined needs and the current digital realities we find ourselves in. For example, we need to decide whether we want to prioritise training teachers to set the framework for digital literacy - or whether we want to focus on establishing spaces for dialogue where young people's experience and knowledge can come into play directly.

Young people today have low degree of technological confidence[7] and are sidelined when it comes to making political decisions about what is important to young people. Digital literacy must embrace young people's realities and take into account their dreams, uncertainties and concerns. At the very least, we should challenge when and how to approach tech policy issues to better nuance what knowledge is relevant. Young people acquire technological competences outside of formal institutions and also face challenges that we cannot conceptualise in advance. Young people's eyes and perspectives are an important key to change - and a key to bridging the gap between the theoretical and the practical, or the abstract and the concrete.

"In my experience, the conversation about digitalisation and XR technologies requires an understanding of coding and the engines behind the systems" (quote, STX student, Region Zealand)

The quotation above reflects the political focus on STEM education, and it emphasises that the understanding of back-end coding as the only way to understand technologies has the risk of slowing down young people from approaching tech policy issues. A challenge that affects both the individual young person and society as a whole.

3 Separation of levels and a sharpened focus on contextual differences

We need to enhance systemic work and co-operation on new technologies. We should avoid becoming narrow-minded in our efforts to regulate and/or realise the potential of new technologies. The relationship between new technologies, society, and the individual contains endless complex issues and elements that either directly and/or indirectly affect and change the overall landscape. Given the complexity of technology, we as a society must insist on dealing with ethical questions about technology in different arenas and in different ways, and because there is no single answer, we must dare to experiment with new ways of approaching the relationship.

The issues related to new technologies cannot be limited to single countries or single areas. The impact and interrelationships between them are inevitable. Challenges as well as potentials need to be seen in a systemic perspective, taking into account the whole - and at the same time the contextual differences.

Digital literacy should not be approached as something that can be 'solved' in isolation - e.g. in the education sector, or something that can be formalised to such an extent that it ends up being irrelevant in the individual context. Rather, it has to be a 'both/and' question, where we both look at the big picture and at the same time zoom in on specific contexts. From there, we can work to create the desired interplay between technology, individual, and human. This raises crucial questions about when and where responsibility lies and who has what at stake. What is the responsibility of parents, schools, the tech industry, politicians, etc.

Pathway 2: Covergence of physical and virtual spaces

We anticipate that the technological realities of the future will blur the boundaries between our physical and digital worlds. This will affect the way we understand the different worlds and the connections between them. To address this development, we suggest the following four recommendations in this pathway:

4A. Mapping the cartography of virtual spaces aswell as declaring and classifying their rules, audiences, and subject matter.

4B. Creating conditions for understanding curation processes in the algorithm

5A. Establishing intergenerational policy working groups

5B. Cultural reworking of our understanding of knowledge

Back in 1960, futurist Roy Amara outlined how we tend to overestimate technological developments in the near future while underestimating the implications in the distant future. In the early days of the internet, its importance was more or less written off as a passing fad. Today, it is crucial that we collectively consider the history of technological development and work productively with the historical perspective as an underlying premise to navigate and prepare for future scenarios. At the societal level, we need to create a framework for working democratically with emerging technologies and create spaces for conversations about our future technological society. The pendulum analysis[8] as a tool can help us to understand how we navigate in the conversation between relating to a near future and a future future.

The common feature of future technologies - as outlined in the following roadmap - is that they will increasingly merge and integrate our physical and virtual spaces through their concrete technological tools. Despite the fact that we currently live in a hybrid between physical and virtual realities, future technologies will support this even more by, among other things, minimising the transition between the two realities. As this development takes place over time, it will undoubtedly challenge our current concept of reality. We will no longer only have to make a distinction between reality and non-reality, but also in the displacement of virtual and physical realities. This means that our understanding of fiction and non-fiction must be channelled into a new language and understanding that also embraces the complexity of our virtual realities. In concrete terms, this means that we need to create more systemic changes that enable us, as citizens, to navigate a hybrid understanding of reality.

4A Cartography and declaration

In order to deal with the complexity of hybrid realities, we need to start looking at the individual spaces and opportunities as independent, delimited fields with codes of conduct, normative expectations and clear regulations. This means that in our efforts to break down complexity, we must draw up specific declarations and classifications for different types of fields and spaces[9]. In order to deal with the complexity of hybrid realities, we need to start looking at the individual spaces and opportunities as independent, delimited fields with codes of conduct, normative expectations and clear regulations. This means that in our efforts to break down complexity, we must draw up specific declarations and classifications for different types of fields and spaces. Politically and democratically, we need to ask: When is it an entertainment field, a news field, a productivity field, or something entirely different? And based on this classification and categorisation, we need to ask what we would expect and demand from, for example, an entertainment field. This leads to the need for policy frameworks to address the asymmetry between providers and end-users. At the same time, it is also crucial that we take into account that the individual spaces and fields themselves must be able to be multifaceted and hybrid. This need is expressed, for example, when more than 40% of Generation Z indicate that they use TikTok and Instagram as their favourite search devices over, for example, Google search and maps[10].

In addition to creating declarations and classifications, the way in which age plays a role should also be taken into account. In this context, regulatory concepts such as the Age Appropriate Design Code (AADC)[11] are crucial in setting concrete expectations for design practices - with an eye for different subgroups. This is partly about asking who each field and space is designed for, but also about how to remove access for those for whom the space and field is not designed. This requires a comprehensive cartography of virtual realities.

This need for a cartography and classification means that each developer should increasingly ask themselves what kind of environment they want to create and how it should relate to a reality. Specifically: Whether the environments should represent something physical? Or if they should operate as something that goes beyond the physical and nourishes a conceptualisation that leans more towards the speculative and fictional?

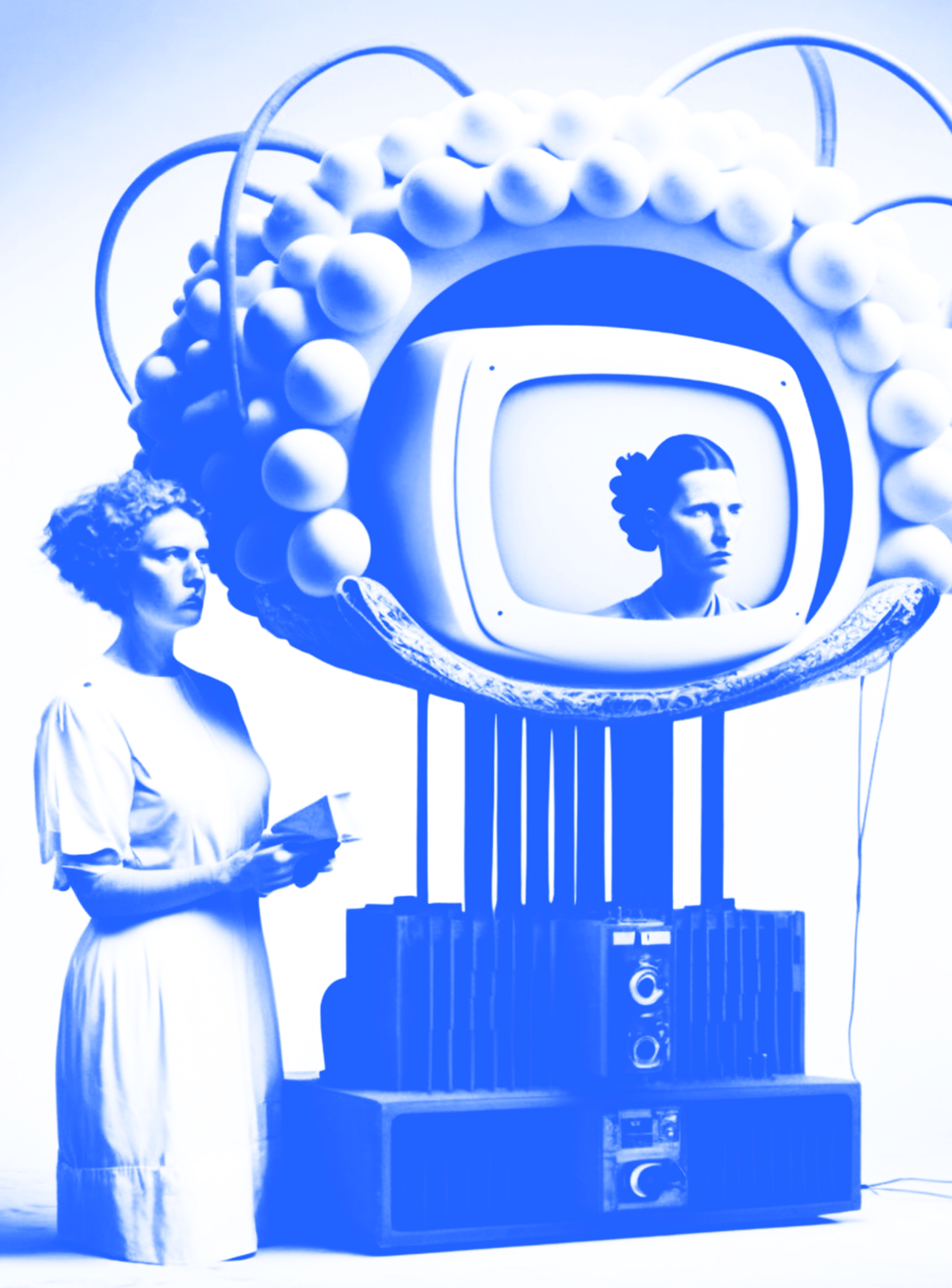
In working with fields and spaces, it is also important to take into account the choices made in relation to users' possibilities for pseudonyms. Pseudonyms, including anonymity, can create a toxic culture where users' anonymity has the effect of weakening their sense of responsibility in their virtual and digital actions.

4B curated reality

In addition to the need for a clear cartography of different spaces, consideration must be given to how reality concepts in virtual spaces are also influenced by different curation mechanisms. Such curation is partly driven by algorithms and partly by the platforms' design on how the virtual spaces can be accessed and what is made possible to do by design. In terms of datasets, it is a characteristic of the Nordic countries, for example, that their populations and respective languages are on a smaller scale when it comes to international datasets and algorithmic governance. This means that the respective algorithms that control moderation, generative AI and recommendations, among other things, are not as well trained in these languages and cultural references. At the same time, we see how the youth in the Nordic countries are demographically smaller and smaller compared to previous generations. This demographic imbalance and relative underrepresentation of young people will weaken the representation of young people's jargon, cultural references, humour codes, etc. It is therefore crucial that, in addition to the classification of virtual spaces, we also consciously work on how we can strengthen and optimise the curation that is a prerequisite for these platforms. This involves, among other things, asking whether we as a nation should actively take responsibility for the preparation of training data sets that can actually strengthen and optimise curation, especially when it comes to Danish-language content.

In addition, it is crucial how we consider virtual spaces as a curated reality. Whether it is the curation of the platforms through algorithmic control and design, or the way end-users interact with spaces, we need to consider which elements are created and decided and which elements have just emerged. This means that rather than trying to talk this reality up or down as a given opportunity or challenge, we need to create a language for how we want to navigate and manage curated realities. When more than half of Generation Z describe that they are more able to express themselves - as their real selves - through digital platforms[12], it is a condition that we must relate to.

"Whether it is the curation of the platforms through algorithmic control and design, or the way end-users use the spaces, we need to consider which elements are created and decided and which elements are simply emergent."



This means that it is to a large extent also young people that we must look to if we are to understand, examine and work on how to navigate the merging of our physical and virtual realities. The need to look to youth and youth culture can be seen, for example, as bloggers of the past and current influencers increasingly challenge and develop the way we understand work. Content-creation and radical innovation of our independent labour markets can be seen as a glimpse of the future that helps to exemplify the development of the creator economy.

5A Intergenerational policy working groups

Whether it is commercial platforms or public digitalisation, it is crucial that the relationship of the design to the outside world and end users is constantly kept in mind. We see this in public digitalisation, for example, when young people's concept of reality does not match the way digital systems have been designed for citizens. The consequence is that young people's design needs and understanding are overlooked[13] because they are expected to be able to access and have an interest in virtual spaces simply because they are digital natives

However, this challenge is not limited to young people alone; on the contrary, it is a challenge that exists across generations. As previously stated, we have fundamental difficulties in navigating the technological realities of the future, and here one's lived experience undeniably plays a role, as a decisive weighting of which possibilities one has an eye for. As young people today have grown up simultaneously with technologies such as smartphones, social media and public digitalisation, their lack of familiarity with a world without virtual spaces means that their prerequisites for being able to speculate about a radically different future are different from those of previous generations. Conversely, we see how this inherent merging of physical and virtual realities - which young people live in and with - is more difficult to grasp for older generations - for whom the two realities are very distinct.

Therefore, there is a need to concretely install intergenerational working groups as a natural practice in our political and civil society work. These working groups enable us to utilize a greater democratic potential, as different age backgrounds create conditions for a more holistic and nuanced work, where the strengths and weaknesses of the backgrounds continuously complement each other and allow for more nuanced understandings.

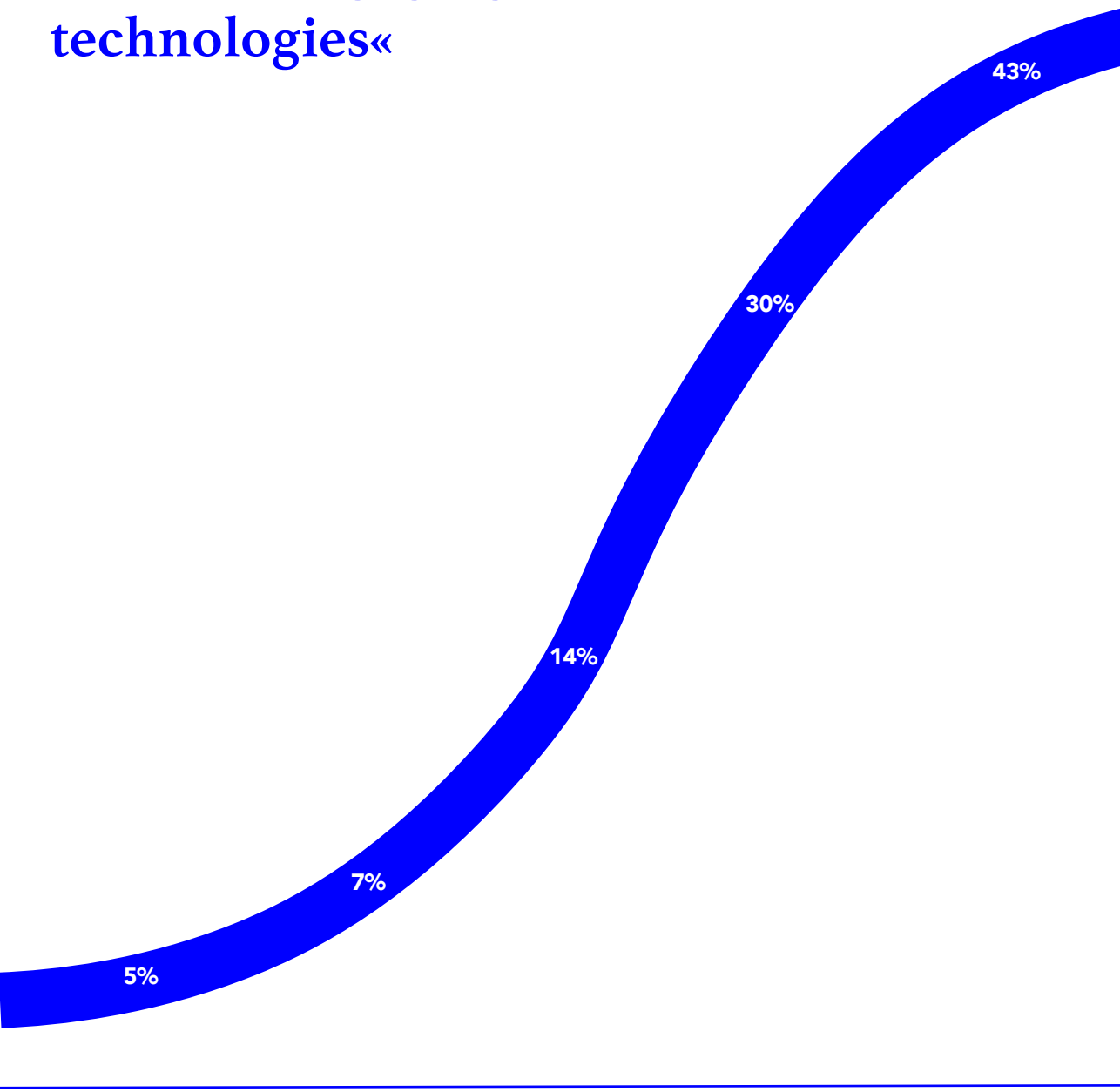
5B A non-linear understanding of knowledge

The need for inter-generational working groups points to an underlying challenge about how we access and experience knowledge. As existing - and in particular future technologies - challenge our concepts of reality, there is a corresponding need for us to work together to break down and deal with the increasing complexity. Today, when we observe that young people are to a large extent pioneers when it comes to adopting new technologies and platforms, their experiences unquestionably create significant resources for our collective understanding. In concrete terms, this means that we cannot consider knowledge solely in terms of a classical linear understanding, which prescribes that there is a correlation between age and knowledge. On the contrary, the axis of knowledge about technological realities will centre more on the way in which one's lived experience of virtual spaces is expressed.

This need to rethink how we approach knowledge is reflected, among other things, in the intergenerational divergence of understandings of the physical and the virtual. The need will only accelerate as future technologies evolve further, with trends such as the creator economy[14] and generative AI[15]. These new economic business models and digital tools can change fundamental infrastructures in our societies. We see this concretely when, for example, generative AIs require more monitoring capabilities and an understanding of biases, and the creator economy, on the other hand, poses new socio-economic questions about the precariat and social rights. These technologies also offer new opportunities, such as increased productivity and more flexibility, but we need to be able to anticipate their alternative consequences.

Culturally, politically, and educationally, we need to move more towards a Nexus Approach[16], in which we fundamentally reject the linear logic of knowledge. This requires us, among other things, to open up decision-making processes and to focus more on connections and complexity rather than dichotomies and polarisation.

»Young people are pioneers, when it comes to engaging with new technologies«



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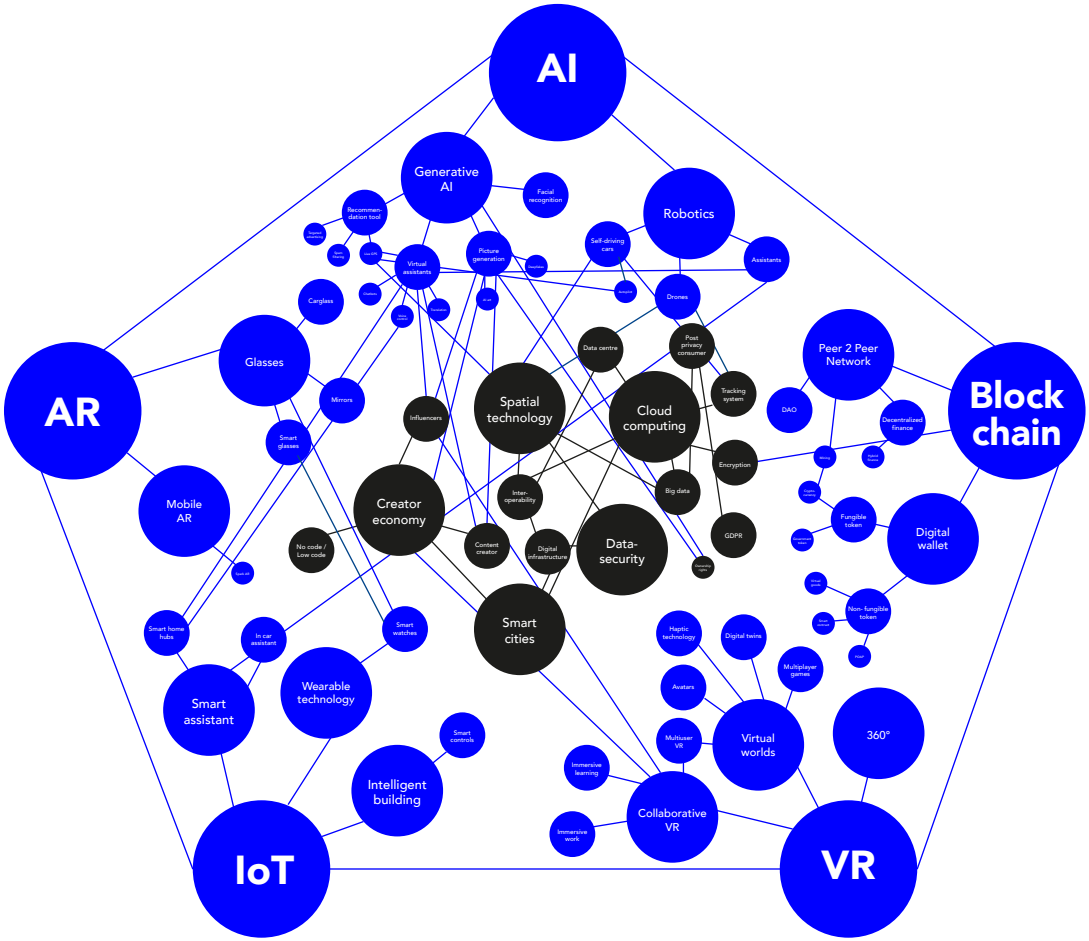
03

MAPPING AS A TOOL TO DEMOCRATIZE



SCAN TO CON-
TRIBUTE TO
THE DIGITAL
VERSION

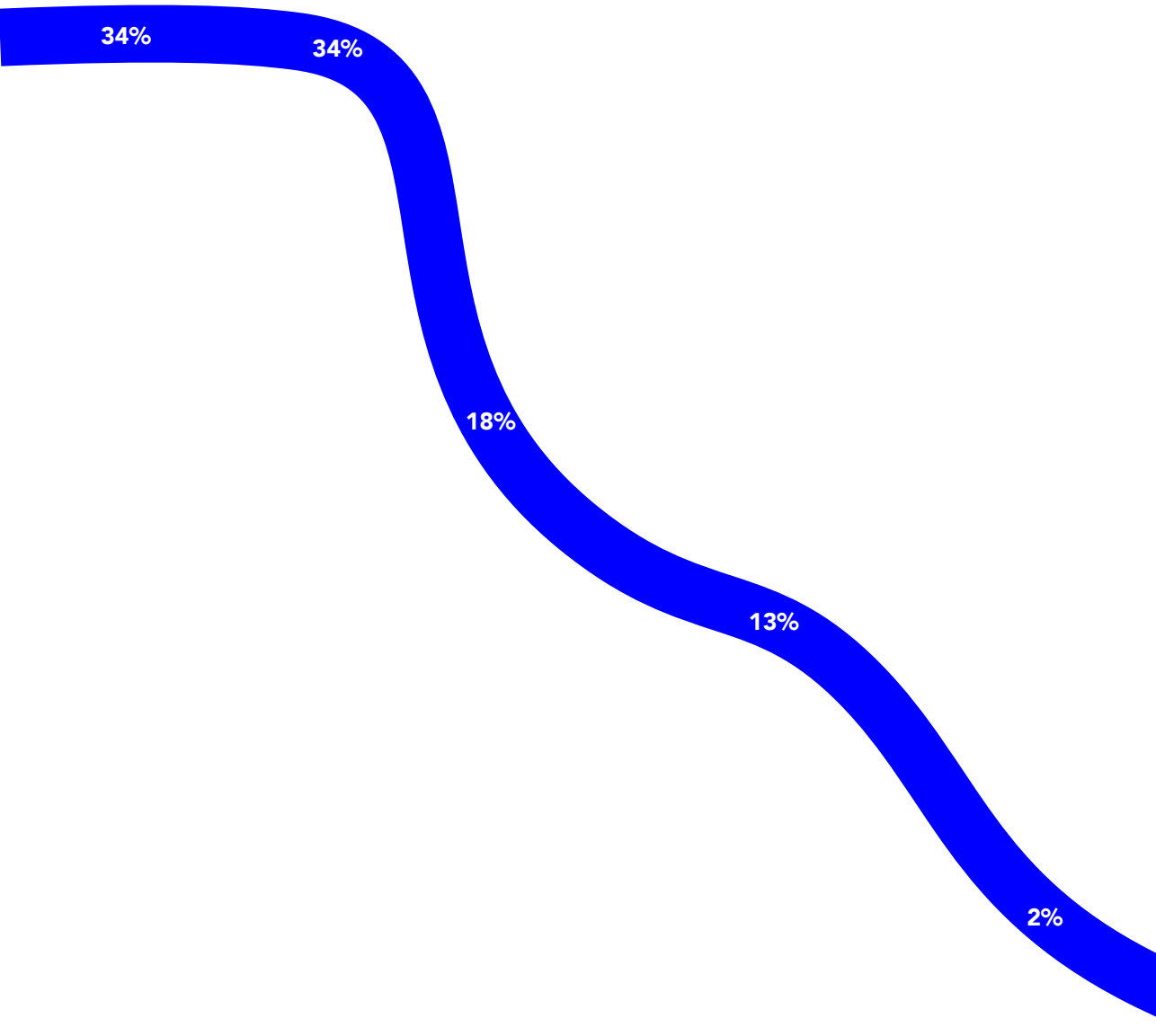
This mapping attempts to provide a snapshot of the tangled network of technologies that our collective conversation centres around in the context of future technologies. In doing so, the mapping endeavours to identify sub-elements that exist under and between the various overarching categories. While the mapping is itself incomplete, it attempts to point to the complexity that exists when navigating between concepts and visions. It suggests that in the democratic conversation about future technologies, there is an inherent challenge in making the conversation both accessible and present.

When both concepts and technological possibilities merge and connect with each other across the board, it makes it difficult to create an overview and form concrete images. This means, for example, that the conversation about new technologies becomes inaccessible to young people - as well as the rest of the population - and that the conversation rarely revolves around the larger visions, but instead focuses on individual sub-elements that appear present. To democratise the tech conversation, we need to use mapping to create an interaction between talking about future visions and present technological realities. In concrete terms, this means that we must strengthen and train the muscle to be able to distinguish between the visionary ideas with which we are paving the way for today's development and the existing emerging technologies. In this way, we must view the present future as a prototype to challenge and explore how the future can become desirable. This point is further illustrated through the pendulum analysis[17].

When the conversation continues to appear complex and confusing, the consequence is that we become more reactive than proactive in the conversation, as we are constantly lagging behind. Therefore, there is a crucial need for us to continuously, and collectively, seek out and explore the developments that are taking place. For the same reason, the following mapping has also been made available digitally, because it is incomplete and intended as a visualization that must be continuously co-created and developed on in order to create a more comprehensive overview.

If we make the conversation present, we can utilize an entirely new democratic potential. This potential exists when more voices and perspectives are given space and the opportunity to participate in the dialogue. Thus, we can ensure a greater qualification of the conversation when, for example, we include marginalized individuals and create an overview and transparency.

»I trust political initiatives and regulation of new technologies«



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04

FUTURE GENERATIONS SHAPING FUTURE TECHNOLOGY AS A METHODOLOGY AND WORKING PRACTISE

Since our very beginning, we at the YOUTH BUREAU have focused on understanding, exploring, and experimenting with the relationship between young people, the future, and XR technologies - based on the vision: "Young people should be key actors in societal preparations for XR technologies". In concrete terms, this means that over the past year, we have been gathering knowledge, explored, and nuanced the questions:

> *What is essential to understand when we talk about the relationship between youth, democracy, and new technologies?*

And

> *How do we approach the relationship between youth, democracy, and new technologies in the best way? What approaches, methods, and tools can help to fulfil the overall vision?*

With experimental approaches, we have from the beginning had an absolute focus on empowering young people's voices in the conversations about new technologies. Focusing on this core value, we have sought to test knowledge, ideas, and hypotheses as well as methods and approaches - in order to find out what is important, why it is important - and how best to create a ripple effect.
We have focussed on how we can best create value by translating the project's knowledge and experience into a more nuanced understanding of how we can create positive change. During the project, we have dissected the vision and set up sub-goals and desired effects for the unfolding of the project. Below is a selection of the effects we have worked towards contributing to:

- To build bridges between politicians, the tech industry, and young people
- To contribute to young people's feeling and experience of being able to help shape technology and its influence on society
- To make young people central stakeholders advising on tech and the future
- To help young people recognize themselves as experts on tech
- To spread knowledge about the dreams and challenges young people have in relation to tech and the future
- To increase young people's communication skills in relation to accessing and talking about technological developments
- To increase young people's digital and technological confidence

We have prioritised creating the conditions for action, while focusing on the promotion of and access to knowledge and information on the technological realities of the future. First and foremost, we have tried to explore broadly and test different approaches and unfold nuances. The desire to unfold nuances has been a core theme, guided by a desire to avoid drawing premature or impoverished conclusions.

We believe that young people have special competences, opportunities and potentials, therefore we have focused on being a catalyst and a platform for young people to increasingly transform their thoughts into action. We have made use of speculative methods and creative approaches that have enabled young people to look at the current technological reality, but just as much speculate on what they want the technological realities of the future to contain. For example, we have continuously used generative AI [18] visualisation tools to give young people the opportunity to create concrete images of the future they imagine, and at the same time use the opportunity to talk about algorithms and bias. We have used speculative methods because the expectations and thoughts we have about the future inevitably influence how we actually act and behave. Ultimately, one could say that our expectations help create realities - by virtue of the way they shape the direction of our actions. Retrospectively, our experiments and studies can be categorised into two main tracks under the umbrella of "XR technologies, young people, and the future": direct work with young people and indirect work with young people. The core features and elements of our methodological practice are the following:

Future Squad

Future Squad is a core volunteer group of 17 young people aged 19-30 who have played a central role and influence in our work. The group is made up of a wide range of young people - some have come into the project with a wealth of knowledge, while others were driven by curiosity. Future Squad thus represents a spectrum of different relationships and perspectives on our technological realities. Over the past year, the volunteer group has gathered knowledge, experimented with new technologies, and helped to qualify the focus of the project. The group has been divided into four subgroups, which have addressed and nuanced four different core areas: Utopian futures, dystopian futures, the impact of new technologies on young people, the impact of new technologies on society and democracy.

Fieldresearch at Silicon Valley

In February 2023, Future Generations Shaping Future Technology travelled to Silicon Valley with Future Squad. The trip was a unique opportunity to see and experience new technologies - from the heart of one of the world's most innovative tech regions, and provided a unique insight into working processes and visions across sectors in the tech field.

We used the trip to challenge hypotheses and methods - with a particular focus on understanding the visions behind emerging technologies. The study tour also helped to strengthen Future Squad's technological confidence by bringing young perspectives directly into the tech-democratic space of dialogue with diverse actors.

Advisory Board

We have an Advisory Board consisting of representatives from four very different organisations: Khora VR, Analyse og Tal, Institut for Fremtidsforskning and Kritik Digital. Based on their specific expertise, the Advisory Board has been an indispensable source of advice for the analyses as well as for the design and development of methods.

Workshops

During the project, we have organised workshops for larger and smaller groups of young people in secondary education. The workshops have been a key source of knowledge as they have generated insights from young people across demographic characteristics. The focus of the workshops has been twofold: 1) we have focused on gathering perspectives and nuancing our understanding of young people's dreams and concerns in relation to new technologies. 2) in parallel, we have focused on testing formats and methods - to find effective tools that can open up reflections on the future, the metaverse, xr-technologies etc.

The podcast 'Virtual Realities'

The podcast has been developed and released in the context of this report, with a focus on spreading knowledge about emerging technologies. Over the five episodes of the programme, the technologies of the future are explored from different professional and personal perspectives. Different guests are interviewed about their knowledge, ideas and thoughts on how new technologies will affect the future as well as their perspective on how they would influence the technological reality of the future if they were in the driving seat. Thus, the ambition is that each episode manages to make the technological reality of the future present through the personal and concrete narrative.

Mini-reports

Mini-reports have been published on a regular basis in order to get reactions on our analyses, to reach a wider audience and to put young people's perspectives on the tech agenda. At the same time, they have acted as a funnel to condense the otherwise speculative and explorative methodological design.

Through these different formats, we have continuously created space for a tangle of perceptions and experiments - and tried to nuance our knowledge of new technologies. Both in the direct work with young people and the work around it, we have worked iteratively and continuously developed the methodology of the project. We have collected data and analyzed insights and trends to understand what needs to be in place for young people to access the future, form opinions, navigate, and make informed decisions in the convergence of physical and virtual realities. We have continuously developed new principles for our work based on overlaps in our analyses. Below is a selection of principles that we consider essential in our work with young people, the future and technology:

- *Grounded in young people's reality: We seek to recognise, understand, and build on young people's position and understanding of reality in relation to technological developments.*

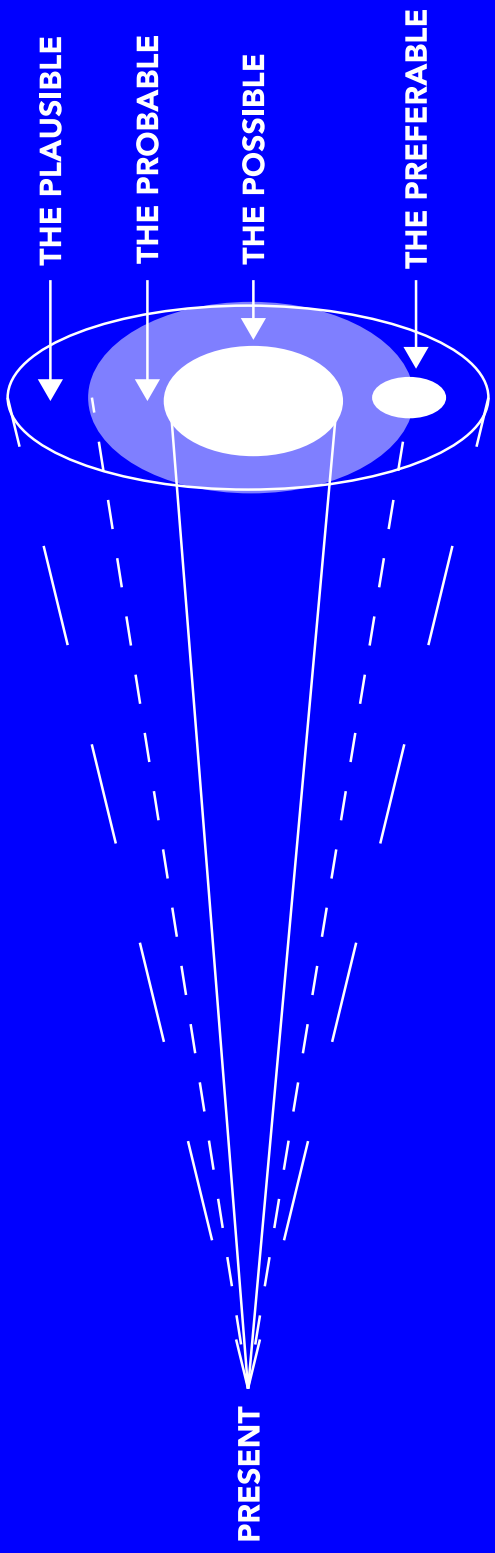
- *Involvement of young people: We continuously involve young people in all parts of the process, as young people are central to our work - and will be greatly affected by the future and future use of XR technologies*

- *Establishing 'academic' foundations: In order to explore and understand potentials and challenges, we must first have an understanding of what exists. We strive to establish an understanding of the technological reality and incorporate historical perspectives that can inform the present and the future*

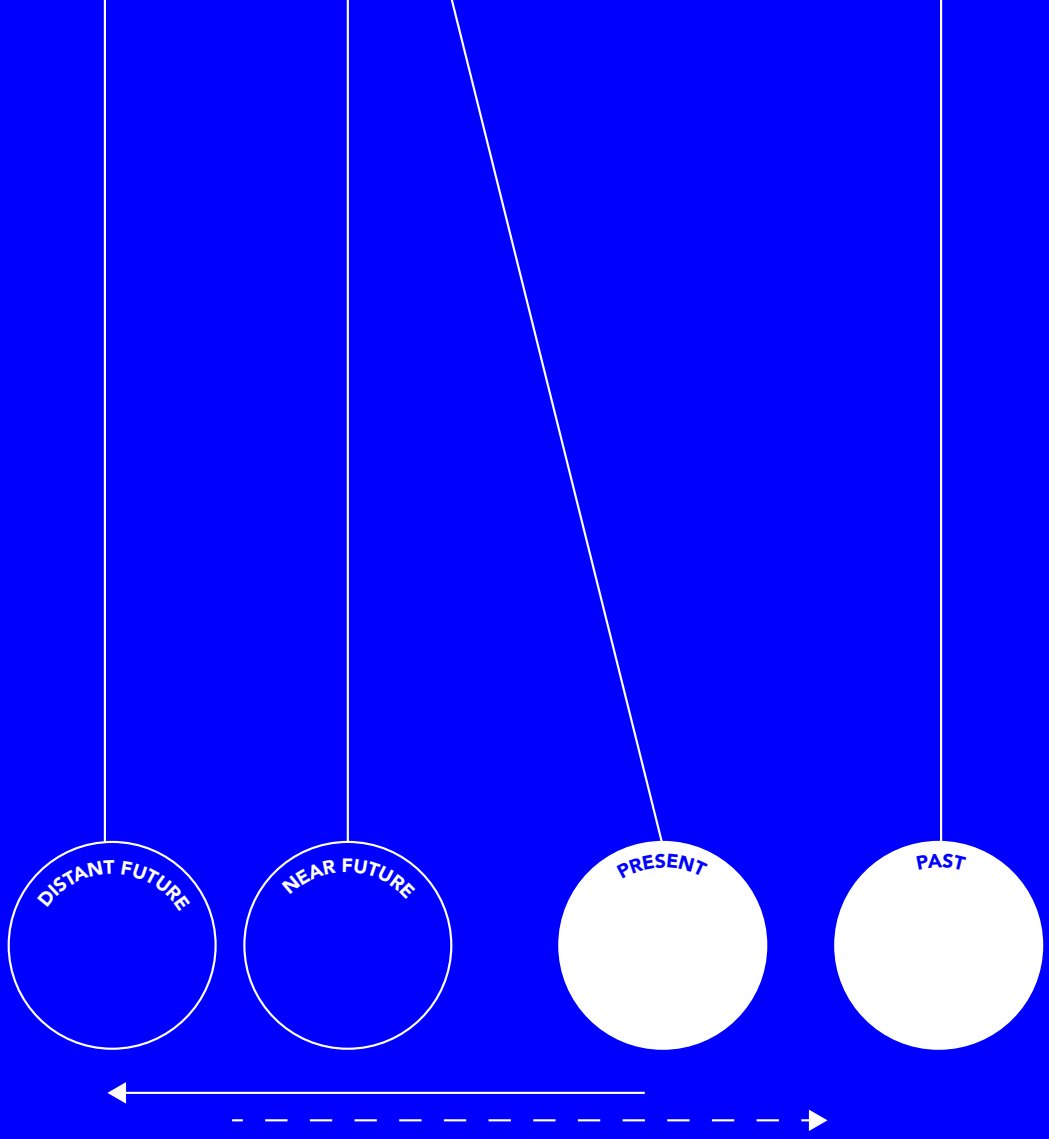
- *Nuance: We continuously seek to avoid a division into "good" and "bad," while trying to clarify when we are dealing with abstract ideas and when we are dealing with concrete scenarios. This includes a focus on clearly defining what is possible and distinguishing between hypotheses and the reality in which we find ourselves*

- *The relationship between humans and technology: We seek to challenge and work with the relationship between technologies and humans, based on the idea that technology should function as a tool for humans and not the other way around*

- *Focus on bridge building: We seek to continuously build bridges between young people and relevant actors who have a mandate in the conversations and work with tech*

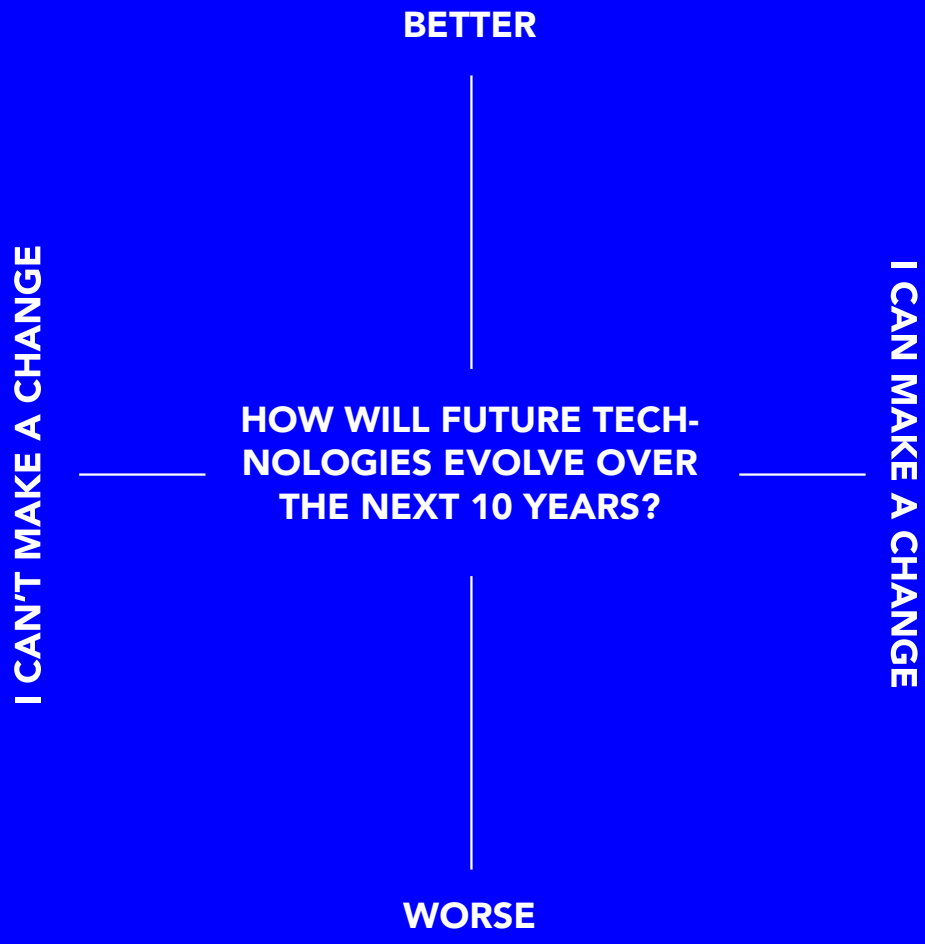


The Future Cone is a basic model developed from Trevor Hancock and Clement Bezold's 1994 article 'Possible futures, preferable futures'. It is used to view the future by dividing it into four categories i) The possible - that might happen ii) The probable - that is most likely to happen iii) The plausible - that could happen iv) The preferable - that is desired to happen. In this way, the model is used to talk about future scenarios from different levels based on business-as-usual and radical innovation.



The pendulum analysis has been developed by Future Generations Shaping Future Technology, as a consequence of the methodology of the work on future technological realities. It is a visualisation of the relationship between how it has been and how it should be, and thus serves as a guiding principle in the conversation about future technological realities. The pendulum analysis focuses on how we should use the understanding of the past, as well as the present notion of the future, as a prototype with which to examine, challenge and explore the technological realities of the future.

In 1973, sociologist Frederik Lodewijk Polak introduced 'the Polak Game' as a tool for thinking and visualising the future in his book 'The Image of the Future'. The Polak Game has been used as an extended line of attitude[19] that helps to create a framework for a conversation about how we as individuals view the future, and how our emotions affect how our understanding emerges. The model serves as a crucial framework and exercise to be able to focus on the degree of influence one feels and experiences in relation to being able to influence the future. In concrete terms, this means that we can address images of the future and technological confidence through the expression of attitudes and dialogue.



05

A DISCOURSIVE MAPPING OF THE CONVERSATION ABOUT THE FUTURE OF TECHNOLOGICAL REALITIES

The following analysis is based on PUBLIKUM / Will & Agency's Theme Crawler tool.

Theme Crawler is a technology that provides an overview of contemporary conversations at scale and helps creative teams get closer to their audience or target audience. The algorithm in Theme Crawler helps identify which areas of a particular theme are most important to the audience. The anthropology helps to identify emotions and reflections that need to be explored further. PUBLIKUM's Theme Crawler explores the contemporary relevance of concepts by creating a semantic map of emotions. Through semantic mapping, the Theme Crawler identifies what these conversations tell us about how we think and feel about a selected theme. Will & Agency is a user research company that combines soft qualitative data with big social data and AI.

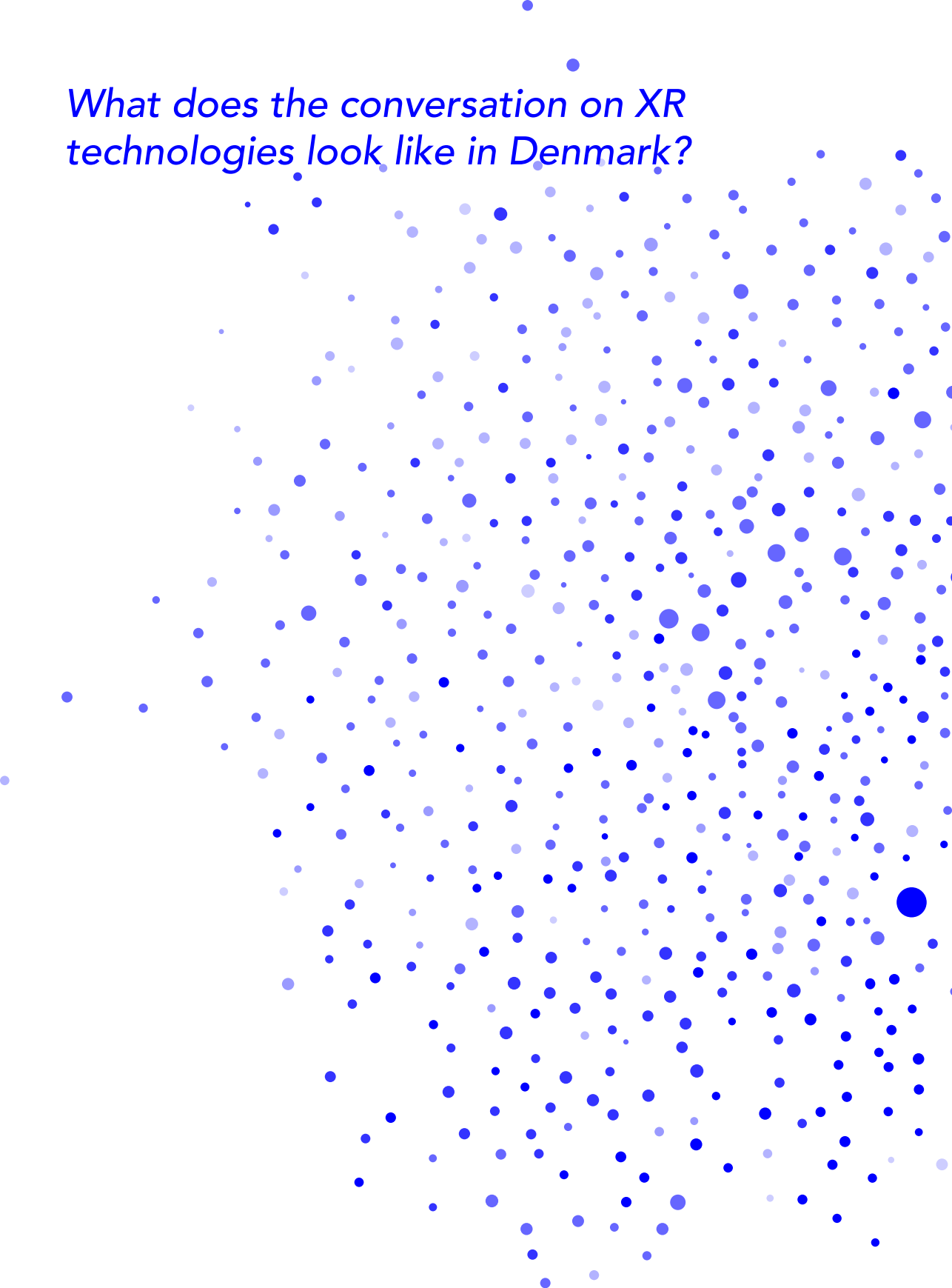
This analysis indicates that young people in Denmark have a very limited and present conversation about XR technologies. As a result, these technologies appear foreign. However, there are smaller user-driven communities, especially on social media, where the conversation flourishes. However, compared to other European countries, the Danish communities of XR users are much more leisure-orientated than oriented towards the use of XR technologies in, for example, the businesses.

Another contrast is the discourse on who XR technologies provide access for. Here it emerges how the Danish conversation is centred on the level of qualification, often at an academic level. In contrast, the European conversations are more centred around inclusion in terms of who has access to and who can be part of XR.

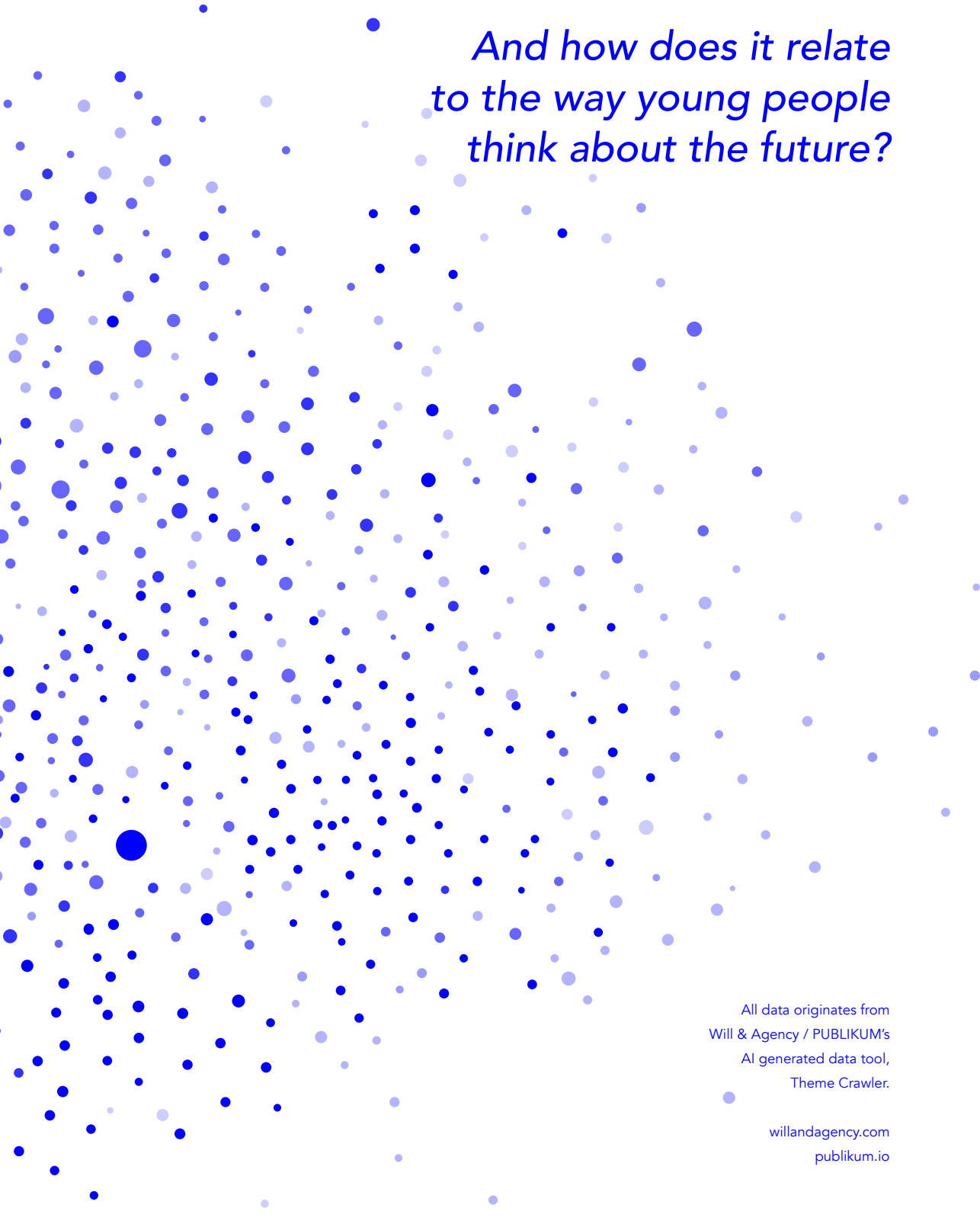
Alongside this conversation, heavy discourses on the positive aspects prevail across the criss-cross. Significantly, it is institutions and educators who are driving the conversation about qualifications and training in XR technologies. This means that young people are largely not involved in the conversation about how XR technologies can impact and create opportunities in the future.

Finally, at the European level, we see a dominant conversation about the current sense of an unregulated world of XR technology. The issue of accountability is the main concern in relation to future XR technologies, as aware young XR users find regulation and governance essential to create conditions for a positive use in the future.The following pages will outline the dominant discourses in Denmark and across the EU respectively.

What does the conversation on XR technologies look like in Denmark?



And how does it relate to the way young people think about the future?



All data originates from
Will & Agency / PUBLIKUM's
AI generated data tool,
Theme Crawler.

willandagency.com
publikum.io

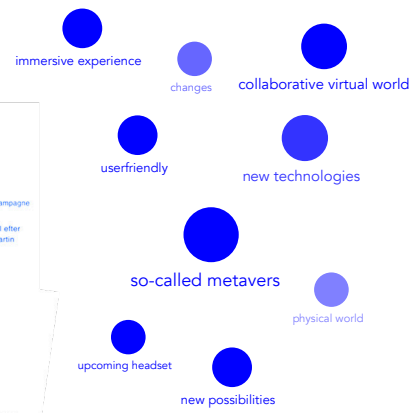
Top keywords from 25.000 digital sources

22 million entire country millions of euro
cm/wp-content-uploads President of the United States of America
8 percent game customers application
digital wallet world site tokens
video
project **virtual reality** Vermillion app experience
metaverse augmented reality silver dollar
Virtual reality Virtual reality 17 percent
virtual reality world platform Intel Core i5
milestone collaboration upcoming event
President of Russia Vladimir Putin

Three key conversations in Denmark

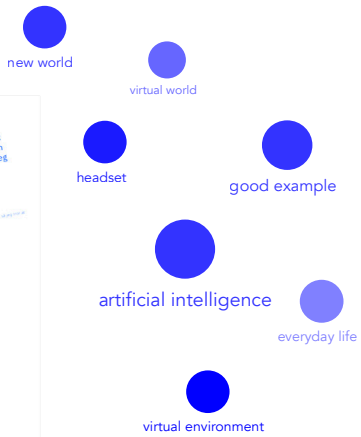
Not yet public property

Across conversations in Denmark XR technologies in public media are presented as exotic and not yet immersed in the Danish culture. Stakeholders within different industries are highlighted as a little exotic and organisations representing industries are still at an explanatory level.



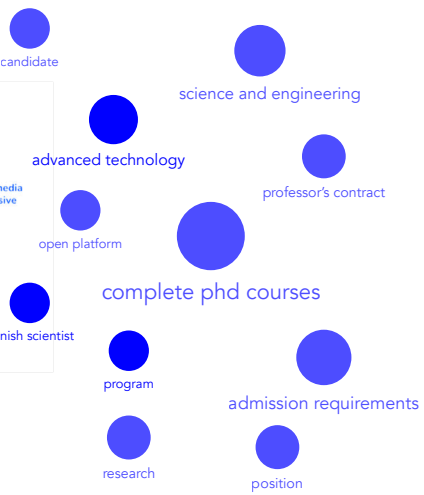
User-centered communities

Users of XR do not take up much space in public conversations, yet in Denmark, there is a community of sharing and discussion primarily located on SoMe platforms such as Reddit. Thus it might be difficult to get an overview of the user base and experience in Denmark from the public.

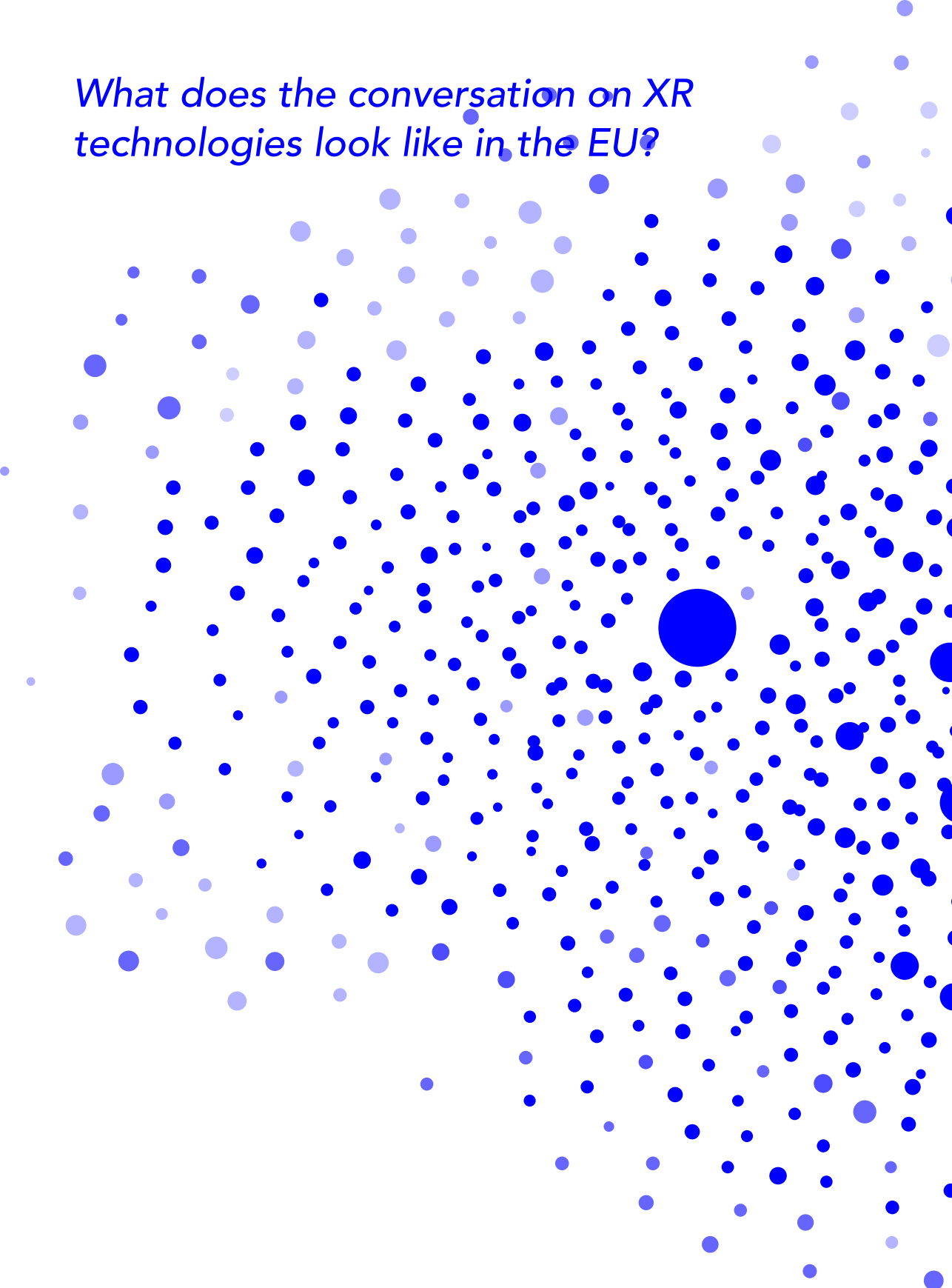


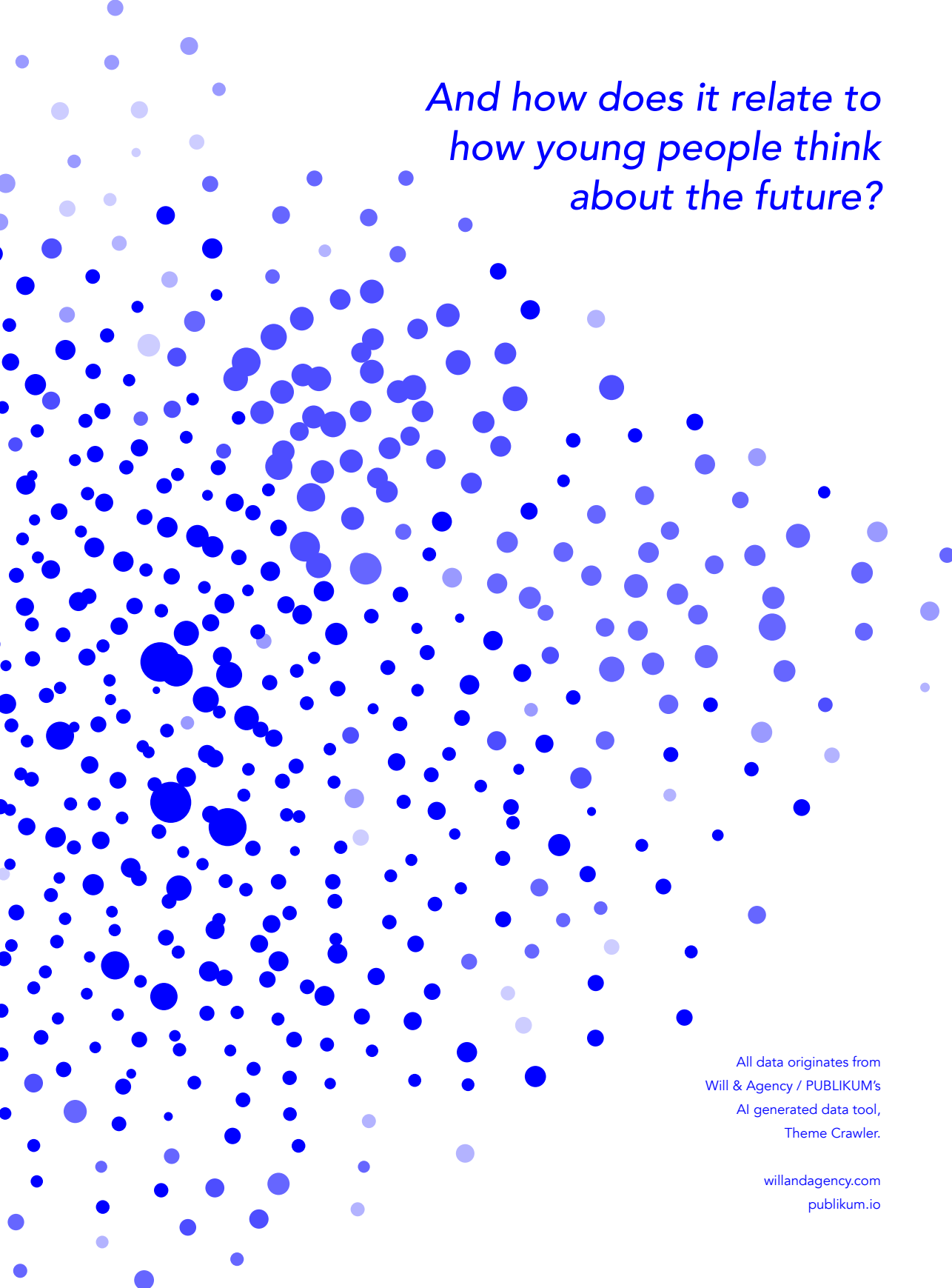
XR qualifications

Across the conversations the tech industry in Denmark is immersed in an educated discourse. And a bit of mystery. Several PhD. positions and debates on how tech is still a little exotic fill up the data.



What does the conversation on XR technologies look like in the EU?





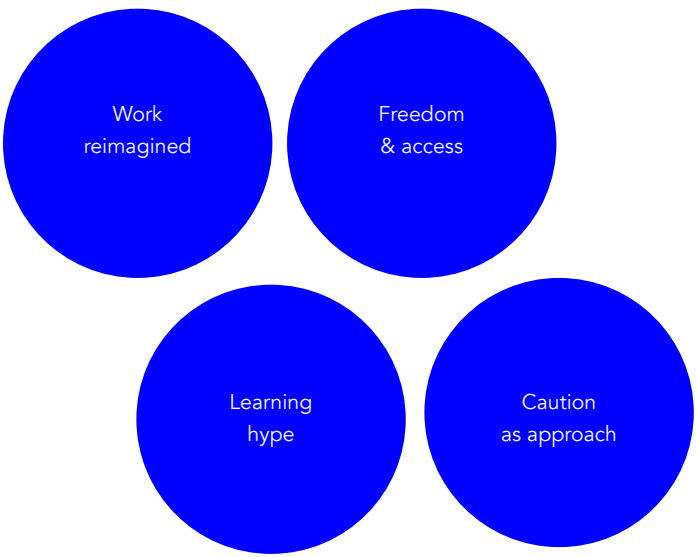
And how does it relate to how young people think about the future?

All data originates from
Will & Agency / PUBLIKUM's
AI generated data tool,
Theme Crawler.

willandagency.com
publikum.io

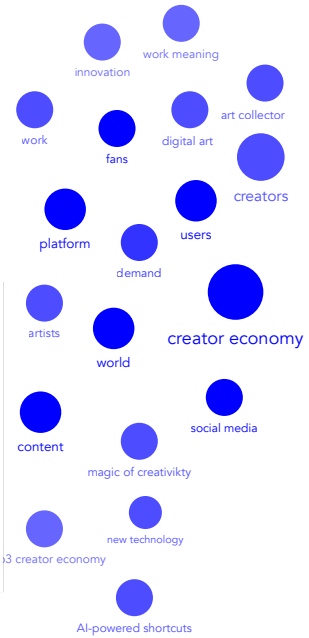
Top keywords from 125.000 digital sources

Four key conversations in the EU



Work reimagined

Across conversations, discourses about the current and future potentials of XR technologies are in many cases equal to a more comfortable future. A future where more user creations will be possible sources of income and more jobs can be done remotely. Yet, there is also a sense of only if handled right. The definition of "right" varies yet many young people within the EU express excitement and hope for their future life in the job market with XR.

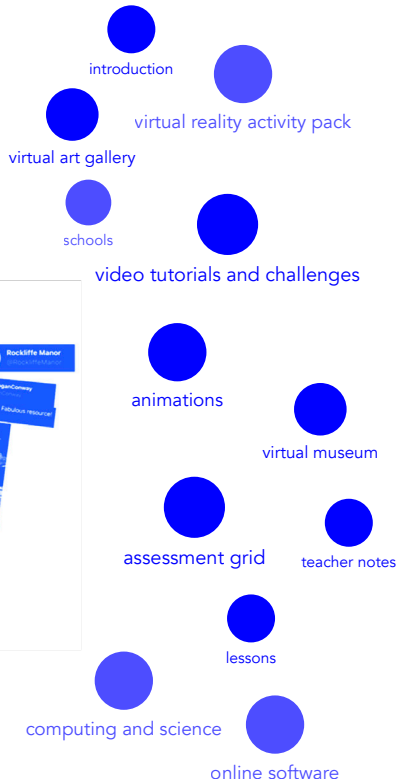


Freedom & access

Online conversations are highly positive about the potentials for access within XR - access to immersive communities, exploration, creativity, and more. The freedom to express yourself and access other users' creations is also positively anticipated. Despite many very concrete initiatives and examples of these potentials, there are also users and organizations that lobby for inclusivity for all within XR - if these experience truly have to be better than Web2 it should include all.

Learning hype

A dominant theme located in EU-based conversations about XR is the future of learning. Support for initiatives such as VR training in education, medical studies and mental health is praised. Yet when it comes to education there is a tendency for talking about children and young people and their educational future immersed in XR, not with them. And few underline the agency of younger generations as the fastest adopters and adapters of technology.



Caution as approach

In contrast to the many positive conversations about XR technologies caution is present online too. The most dominant fears or worries concern rights, human behavior, and the legal system in the Metaverse and how it will be designed, function, or regulated. Other points of caution c are health in XR, credible sources, the concept of reality, deals with dystopian futuristic art or voicing public concern over how the reality of the future will manifest.

06

IN A JUMBLE OF THE EITHER-OR, WHO CAN BE BOTH-AND?

(A commentary from Silicon Valley)

With slightly confused faces, and a touch of surprise among the volunteers, the Youth Bureau told us that we were going on a field trip to Silicon Valley. Were we really going to Silicon Valley? Was that what they said? Apparently so, because in week five of 2023, we were all going to explore XR technologies. So we did.
During the following I want to tell my own story of this promising journey, but I also want I to share some of our joint data production and deliberations in the volunteer group. Because in retrospect, the excitement about ourselves and our own role in Silicon Valley was perhaps a bit exaggerated, however, time would also teach us how our very societal relationship with the tech industry would emphasise the importance of people like us. Even if our importance would not take the form that we initially thought.

From that evening on a dark October day when we were introduced to the trip itself, the questions among us volunteers started to grow. How could we actually influence the technological future? And how could we prepare ourselves in advance of the trip itself - or rather, how could we appear qualified when it came to the conversation about the future of technology?
We all sat in the meatpacking district of Copenhagen, munching on snacks at Ungdomsbureauet while brainstorming on a speed faster than the commercial success of ChatGPT. Because who really knows anything about the future of technology? The easy answer is probably no one, but that didn't stop us from at least trying to influence and understand what the technological reality of the future might look like. For some, this desire to influence the technological reality of the future took the form of wanting to regulate the very coding behind digital platforms. But for the more mortal volunteers - myself included - the Python language itself seemed like an overriding barrier to entering the conversation. Personally, I was more focused on wanting to understand, investigate, and influence the actual use of technologies.
Packed with - what we thought were - the right sharp-angled questions, we travelled across the Atlantic to meet the Danish Tech Embassy, the World Economic Forum, and Meta.

During the first day's train journey to Palo Alto, it became clear just how big an area it is.
Silicon Valley is a massive amount of office space spread out over a vast geographical area. An area that might feel smaller if you're travelling by car, but certainly huge by train. It may not come as a surprise to some readers that public transport in California isn't exactly the definition of fast nor efficient. Still, we got there. The destination was the Danish Tech Embassy, which, however, also functions as a regular embassy - but admittedly the Danish Tech Embassy sounds a whole lot more business-like. And business might not be a bad thing when the embassy works with tech giants and large public interests as its closest neighbours.
In response to one of the Python-speaking volunteers, the institution described itself as the link "between profit and a better world - and therefore the tech embassy is a meeting place for both interests". As the conversation

unfolded, however, I couldn't help but wonder how the Danish Tech Embassy's work primarily focuses on the biggest fish in the sea. Although this is probably primarily due to the fact that the foundation of techplomacy is the dominant interests alone, I couldn't help but be interested in how the embassy related to independent creators, the grassroots, and the underlying culture behind tech giants.
However, the answer to that was that there was no established policy on them in the first place. In other words, they weren't big and important enough for our technological life - or so it seems. And when I reread my field notes, it becomes clear how this power and dominance is key to techplomacy. Regulation and policy work was presented as present, yet not so present in that it was actually directly implementable. Allegedly because the speed between policy and technological development is unbalanced. Whether these difficulties should give rise to sympathy, however, I am not so sure. Instead, the visit painted a birds-eye image of the reality of Silicon Valley that we would encounter on our onward journey. A reality dominated by gigantic interests and where everything was so sharply focussed that it made the questions we brought with us seem like commedore-46 among the latest devices.

Tucked away between inexplicably large redwood trees and a view of the iconic Golden Gate Bridge, we found the World Economic Forum the next day. Luckily, we weren't just lurking around the crumbling buildings; despite a slight detour, it was meant to be a visit.
When we got inside, the plan was to meet them for a chat about global collaboration on future technologies across sectors. While we undeniably emphasised our own youthfulness by being openly engrossed in the free snacks and coffee, we were simultaneously greeted by a tall figure in a well-pressed suit. The contrast was striking. As if the stark contrast wasn't shocking enough, we were equally surprised when he suddenly even spoke Danish. However, this little stunt of sharing a moment of common nationality created an intimacy that made us considerably more relaxed when the rest of their perfectly ironed dark-coloured suit personas entered the room.
A distinctive form of communication that we as a group had been regularly met with was flattery. I can't count how many times we were told "you probably already know" or "with your expertise...". The World Economic Forum was no exception, although it also exposed us to an introductory-level presentation of XR technologies. In retrospect, all these introductory presentations came to seem like the standard format for attending these dialogues. What surprised some of us the most, however, was their hugely committed data policy officer who, clearly intent on picking our brains for input and thoughts. Her point about how stereotypical archetypes influence on policy development was particularly resonant. The point was how to avoid falling into the trap of designing and thinking only in terms of narrow, unnuanced and perhaps in reality non-existent archetypes. Questions like these, which do not seem to have simple solutions, but on the contrary are paved with complex and interwoven answers, would be key questions that we would take forward.

In a convoy of Ubers that escorted us through the busy streets of San Francisco, we were heading to Meta's headquarters in Menlo Park on Hacker Way. And yes, Hacker Way is the right address. In many ways, it felt surreal that we were now going to the so-called tech giant that everyone is talking about. In we went, and once again we made a mask fall, as we completely uninhibitedly threw ourselves over the free snacks as soon as we entered.
Throughout the day we were met by a number of different representatives, and for the vast majority of the conversations, they ended of course in the question of moderation, user involvement, and the jumble of interests when operating across countries, cultures and with such a large scale of users. The question was of course the whole premise for our presence, but we were nevertheless continuously confronted with the story of a desire to ensure that the individual users and their thoughts were also given a greater mandate.

Despite the whole idea of co-creation sounding democratic in itself, it was still more or less impossible to figure out how to actually create that space. Even though we had been sent over to Hacker Way to engage with the youth perspective of technological reality, it was still difficult for them - as well as us - to actually drill down to the core of the answer to the how part of the otherwise beautiful democratic equation.

But still, it was as if the whole conversation and the day paved the way for a fundamental understanding of how there is a fundamental challenge between the tech industry and our democracy on a collaborative level. A challenge that to a large extent may be about the fact that the conversation is perhaps first and foremost underway now. But also a challenge in that the conversation is similarly quickly reduced to an either-or rather than a both-and.

With our different backgrounds and understandings, we had travelled across the Atlantic and were challenged by having to dig through the jungle of snacks, sharply cut poles and constant flattery. Yet the journey also became a story about the fundamental questions we should and must address when accessing and navigating the technology of the future.
In recounting this experience in Silicon Valley, it is all too easy and unethical for me not to reflect on my own role as a communicator of the journey itself. Because despite the current challenges of implementability of policy decisions and the sharp angles, we came to understand the underlying challenges at the very core of tech policy making. Because, as with my account of the trip itself, it's about us constantly ascribing values and motives - all while fearing that others are doing exactly that. We depart with the sharp angles and expect them to be sharper when we return, instead of dwelling on the hard, complex issues that require longer-term, mutual, and in-depth cross-collaboration.

at de skal være slebet skarpere, når vi rejser retur, i stedet for at dvæle ved de svære, komplekse spørgsmål, som kræver længerevarende, gensidigt og dybdegående samarbejde på tværs.

Just like navigating between these new technologies and political regulation, the bottom line is that this is a never-ending process. Instead, it is a process that must constantly be forced to be open. This requires curiosity and a fundamental vision of wanting to strengthen our future reality.

Perhaps that was in fact the main reason for our presence. That with our youthful enthusiasm for snacks, and our assumed angle grinder, we could perhaps still help to emphasise that behind that there is also an alternative that does not only have to be either-or, but can actually also be both-and.

07

TOWARDS A DEMOCRATISATION OF THE TECH CONVERSATION

The future is already here and it lives inside us, as expectations, thoughts, and reflections. However, this report outlines how the technological realities of the future - as well as the present - rarely branch out into democratic conversations. This is particularly true for young people, despite the fact that they possess crucial competences that help us navigate hybrid technological realities. As a consequence, discussions on what we want for the technologies of the future remain centred around a small circle of decision-makers, which is undeniably a democratic problem. It is therefore time for us to take collective responsibility for democratising the conversation about our technological realities.
In this context, this report recommends that we should develop and establish concrete strategies to democratise the tech conversation - with a particular focus on young people. Based on a year of knowledge, the report identifies a total of eight different recommendations. These recommendations operate at several levels, but they cover two tracks in particular

i) Focusing on how we rethink the basic understanding of digital literacy itself. From being a reactive response, we need to actively work to educate towards something. This work on digital literacy requires that we create a collective vision for our future technological realities.

ii) At the same time, we need to strengthen our democratic discourse by structurally creating conditions for intergenerational perspectives. We do this by considering each virtual space as its own independent field with its own rules of the game and normative expectations. However, this presupposes that we make the classification of the different spaces visible, thereby minimising the asymmetry between providers and end-users.

It is time to dwell on questions such as: What are our expectations of technology? And what role should technology play in the future? What radical opportunities do we see in the technological realities of the future and what should we pay particular attention to? With these questions, the report is an open invitation. Rather than talking about tech as something that is distant, we need to contribute to democratizing tech policy through conversations and curiosity.

Fodnoter

1 More specifically, we have focused on XR (extended reality) technologies, which cover Virtual Reality (VR) and Augmen ted Reality (AR), but have also looked at other emerging technologies such as Artificial Intelligence (AI), Blockchain and Internet of Thing (IoT).

2 Go to page 29 for the overall tech mapping

3 Gen Z is an umbrella term for people born in the late 1990s to early 2000s. Gen Z is a demographic classification used to talk broadly about the conditions under which this group grew up.

4 Razorfish: The Metaverse – A view from inside (2022)

5 Ungdomsbureauet: Methodology for youth engagement and empowerment(2019)

6 Web2 is used to describe the generation of the Internet characterised by the use of interactive applications, social net works, exchanges between users, etc.

7 The concept of technological confidence derives from the report One Future, published by Future Generations Shaping Future Technology in October 2022, and refers to the feeling of being able to act democratically on the technological challenges we face. In this report, we identified how young people suffer from a low level of technological confidence, as a consequence of the perception that only coding and programming skills enable them to act.

8 Go to page 39 for the pendulum analysis

9 Fields and spaces here refer to the individual virtual and digital platforms and experiences that are designed based on an expectation of a given action, behaviour and practice.

10 Ark Invest: Big Ideas 2023 (2023)

11 The Age Appropriate Design Code is a policy regulation from the UK and the state of California, among others. It sets out specific standards for how platforms aimed at minors can be designed.

12 Razorfish: The Metaverse – A view from inside (2022)

13 We see how there is a lack of understanding among young people, especially for public digital platforms. This points to a design practice that does not recognise the needs of young people and therefore does not speak their language. Politiken: De unge kaldes 'digitalt indfødte', men støder alligevel panden imod den digitale velfærdsstat (2022)

14 The creator economy is an economy that is software facilitated. This makes it possible for people who create content on platforms to monetise it.

15 Generative AI is a type of artificial intelligence that can produce different types of data. This could be, for example, generating an image from a text.

16 The Nexus Approach is a way of achieving sustainable development by continuously integrating a number of different variables. In this case, the variables are the different lived experiences.

17 Go to page 39 for the pendulum analysis

18 Generative AI is a type of artificial intelligence that can produce different types of data. This could be, for example, generating an image from a text.

19 In the line of attitude, participants have to take a position on different statements. All participants line up in a row and are then presented with a statement with two options. One end represents one option, while the other end represents another option. Participants are then asked to move around the room according to which option they agree with the most. Then some of the participants are asked why they are standing the way they are. The options can be anything from agree/disagree to digital/analogue etc.

How will future technologies affect our realities?

The future is not a static entity, it unfolds continuously in multifaceted forms. Trying to understand the future can be likened to trying to get a grip on slime. Just when you think you've got it, it sneaks around in ever new corners. Despite the fact that the future can be difficult to grasp, we must strive to address it. The way we peceive at the future tells us something about how we fundamentally act and respond to anticipated futures.