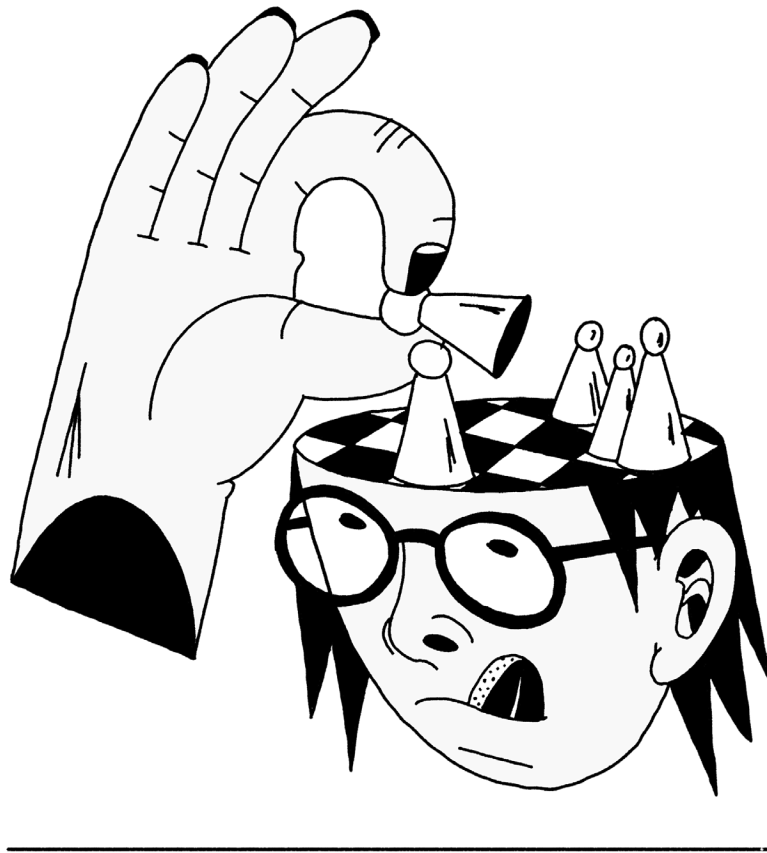


MAKING SENSE OF THE FUTURE



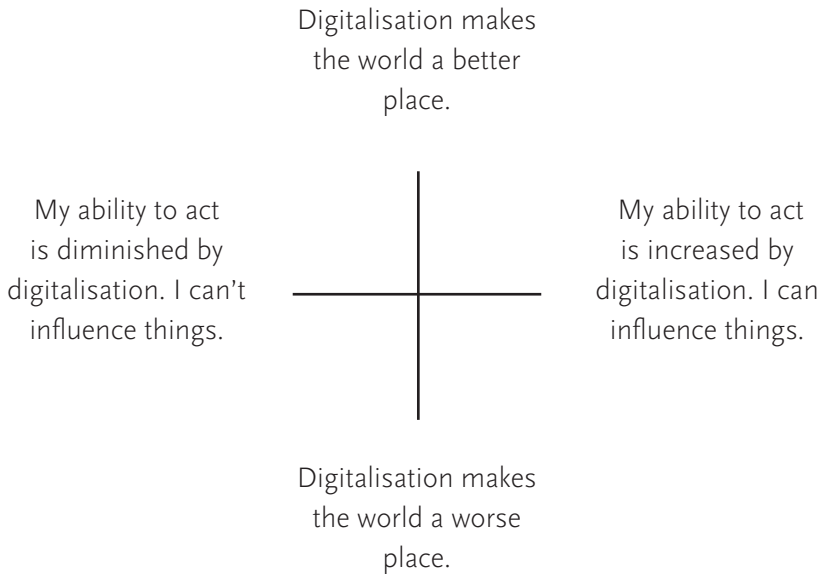
Answer by moving



Your stance towards and impact on digital futures

This exercise is an effective introduction. Position yourselves in the room and discuss your attitudes and capacities. Find out whether you have an optimistic or pessimistic view of digital future(s).

	30–60 min		introductory
	group of at least 3		printouts, utensils and space

INTRO	Answer by moving	2
<p>“Before being a method or a discipline, foresight is an attitude.”</p> <p>Berger, G. (1959) <i>L'attitude prospective.</i></p>		
<p>The fundamental question, “where do you stand?” in relation to futures, is inspired by the dutch futurist Fred Polak (The Image of the Future) and crystalised by Peter Hayward and Stuart Candy. This tool enables the discovery of different perspectives on our future reality.</p> <p>At its core, the ‘Polak Game’ (the principle of which is applied in this tool) introduces the central concept of future images. Everyone tends to have an opinion on technical developments and innovations or the social process that goes along with digitalisation, even though they may not have thought about them much (yet). Let’s go!</p> <p>The exercise requires the participants to position themselves within the following coordinates and discuss their stance.</p>		
ASSIGNMENT	Position yourself in the room, using four poles of an axis about attitude and agency towards the digital future. Find out whether you have an optimistic or pessimistic attitude and how you rate your ability to act in the future. Where do the other participants stand? Can these perspectives be exchanged, discussed, criticised and transformed?	
LEARNING GOAL	This exercise functions as a dynamic mood barometer in the room. The positioning in the room enables an introductory discussion on the topic of digital futures.	
PREPARATION	Print the four poles of the axis. If you wish, laminate them. Draw the below graphic as an explanatory visualisation on a flipchart or large sheet of paper. Mark the four poles of the axis in the room by hanging up the printouts, with tape or similar. The four poles should be far enough apart so that the participants can move freely in the room.	

<p>MANUAL</p>	<p>Answer by moving</p>	<p>3</p>
<p>LET'S START</p>	<p>One of the participants takes the role of a moderator: decide who is taking this role.</p> <p>Moderator: For the following exercise, every participant should think of a specific sector or aspect of society and consider how you think it will be improved or worsened by digitalisation. You can think very broadly and in terms of society as a whole (sustainability, climate crisis, healthcare, democratic processes, the world of work, the education system, administration) or in terms of low-threshold/small-scale technical achievements (special apps, new technical inventions, changes to already existing structures). For now, keep your imagined topic to yourself.</p> <div style="text-align: center;"> <p>Digitalisation makes the world a better place.</p>  <p>My ability to act is diminished by digitalisation. I can't influence things.</p> <p>My ability to act is increased by digitalisation. I can influence things.</p> <p>Digitalisation makes the world a worse place.</p> </div>	
<p>STEP 1</p>	<p>Moderator: The first move reveals your expectations for the digital future. The two statements of this axis are:</p> <p>Digitalisation makes the world a better place. — Digitalisation makes the world a worse place.</p> <p>Cast your imagination one generation forward, towards the year 2040. Do you expect the world to be better than the one we live in (as defined by you), or do you imagine it as being worse?</p> <p>If you are optimistic about how digitalisation will affect the world towards the year 2040 then you should move towards the respective mark. The stronger that feeling is, the further forward you should step.</p> <p>If, on the other hand, you are pessimistic or sceptical about the impact of digitalisation on the state of the world in 2040, then take a step towards the opposite mark. The more strongly you feel that way, the further you should move.</p>	

<p>MANUAL</p>	<p>Answer by moving</p>	<p>4</p>
	<p>There is a subjective judgement at play here which is fine – that's what this exercise requires.</p> <p>Go! Move as far forward or as far back as you like!</p>	
<p>STEP 2</p>	<p>Moderator: The next question is about your ability to act in the digital society. How do you see your personal agency in the digital world and your potential to influence social processes? The two statements of the axis are:</p> <p>My ability to act is increased by digitalisation. I can influence things. — My ability to act is diminished by digitalisation. I can't influence things.</p> <p>Adjust your stance accordingly – along your position from the previous move. Go!</p>	
<p>STEP 3</p>	<p>Speak with the other participants and discover why they are standing where they are.</p>	
<div data-bbox="399 1088 509 1198" style="border: 1px solid black; padding: 5px; text-align: center;">  </div>	<p>GUIDING QUESTIONS</p> <ul style="list-style-type: none"> ▪ Why are you standing where you are? ▪ What aspect or sector of the digital world were you thinking about exactly? ▪ What is it exactly that makes you optimistic/pessimistic? ▪ If you think your capability to act in the digital world is low/high, why is that? ▪ What exactly limits your ability to act? To what extent do you see your ability to act as being encouraged or promoted? ▪ What would it take for you to move towards the optimistic side? 	
<p>STEP 4</p>	<p>Swap places with one person at a time and take their perspective. Share and discuss your imagined examples. Are you able to take or influence the other person's position?</p> <p>If all the participants are in about the same place, tell each other about the specific sector or aspect of society you had in mind and try to persuade each other to take a more optimistic view.</p>	
<div data-bbox="399 1930 509 2041" style="border: 1px solid black; padding: 5px; text-align: center;">  </div>	<p>CONTINUE WITH OUR TOOLBOX</p> <p>For a different take on digital futures, try the tool: The Power of Three!</p>	

EXTRAS	Answer by moving	5
SOURCES	<p>Strategic Foresight ^{FR} Berger, G. (1959) L'attitude prospective. In: Philippe Durance (Ed.) (1955-1966): <i>Textes fondamentaux de la prospective française</i>. L'Harmattan, Paris, https://atelierdesfuturs.org/wp-content/uploads/2020/02/attitude-prospective-g-berger-1959.pdf</p> <p>Polak Game ^{EN} Candy, S. & Hayward, P. (2017) The Polak Game, Or: Where Do You Stand? <i>Journal of Futures Studies</i>, https://jfsdigital.org/articles-and-essays/2017-2/the-polak-game-or-where-do-you-stand</p>	
AUTHORS	Philine Janus & Johanna Wallenborn	

Digitalisation
makes the world
a better place.



Digitalisation
makes the world
a worse place.

My ability to act
is increased by
digitalisation.
I can influence
things.







My ability to act
is diminished by
digitalisation.
I can't influence
things.




The Power of Three



Set the Course for Progress

This exercise will help to understand our own ideas and behaviour as part of our common future. Develop 3 actions that could lead to a preferred change in the future.

	40–60 min		introductory
	alone or in groups of 3–5		pens and paper

INTRO	The Power of Three	2
<p style="text-align: center;"> “The future is a verb, not a noun. Our minds may reach the ends of their tethers, but we’ll never stop futuring.” </p> <p style="text-align: right;">Sterling, B. (2004) <i>Long Now Seminars.</i></p>		
<p>The future is a quantity that has not yet occurred. There are different layers of the future; the unpredictable reality in a few hours, days, weeks, years and decades.</p> <p>In future studies there is a saying: The future is a verb, not a noun. It refers to the active moment in dealing with the future(s). Our actions, ideas and innovations have a direct impact on the future(s). Thus, the future remains an unknown quantity, but not one that cannot be actively influenced.</p> <p>A distinction must be made between individual, practical and structural levels. While it may seem difficult to imagine, our individual behaviour influences the big picture. Social and political decisions and instructions for action, on the other hand, give structure and guidelines to our lives.</p> <p>All three levels – practical, personal and structural – are related and influence each other.</p>		
ASSIGNMENT	In this exercise you will develop 3 actions that could lead to a preferred change in the future. This will help identify different influences on our future and evaluate their interaction.	
LEARNING GOAL	The exercise will help us understand our own ideas and behaviour as part of our common future. It is a motivational tool.	
PREPARATION	No preparation is necessary.	

MANUAL	The Power of Three	3
LET'S START	<p>This exercise is about a desirable future in 2040. Three levels of change are to be anticipated in relation to this temporal anchor.</p> <p>Three levels of change</p> <p>I: How should our behaviour or actions change (the practical level)?</p> <p>Could a new service, technology or invention have the desired effect on people's behaviour? For example, what would make it easier (e.g. nutrition, mobility or consumption) for people to live more sustainably?</p> <p>II: How should our thinking, beliefs and actions change (the personal level)?</p> <p>The most significant change is at the level of values, ideals, worldviews and ways of thinking. What is our relationship to nature? Do we see it as a value in itself or as a human resource? What do we think about consumption and lifestyles? What kind of actions influence the way we think?</p> <p>III: What structural changes (at the political or administrative level) are required?</p> <p>Society can control people's behaviour and actions, e.g., through laws and regulations in taxes, consumer protection, energy policy and health care.</p>	
STEP 1	<p>Pick an overarching topic and develop actions that influence all three levels – practical, personal and structural:</p> <ul style="list-style-type: none"> ▪ An action that influences our behaviour or actions ▪ An action that impacts our attitude and the way we think ▪ An action that influences structures of society and how we live together 	
<div data-bbox="397 1547 508 1662" style="border: 1px solid black; padding: 5px; display: inline-block;">  </div>	<p>EXAMPLE</p> <p>Topic: Racism on digital platforms and social networks</p> <p>Practical level: Global collaboration gives rise to an open source content moderation algorithm that operates across all social online platforms. It has an open programming interface and is coded by representatives of various communities and interest groups governed by an independent council consisting of academics, civil society, public actors and government representatives.</p> <p>Personal level: We begin to think more inclusively, viewing our world in an increasingly intersectional way. We learn to understand power structures and recognise our own privileges. We internalise that our own actions,</p>	

MANUAL	The Power of Three	4
	<p>statements and ways of thinking may discriminate against other people. Eventually, we understand that we can only live together peacefully as a society through dialogue and listening.</p> <p>Structural level: Extensive global laws are passed that encompass content moderation, internal regulations based on human rights, and transparency obligations for companies.</p>	
	<p>Think about how your ideas could be implemented at all three levels and what effects they would have.</p>	
STEP 2	<p>Organise your ideas in mind maps, drawings or notes and discuss them.</p>	
	<p>GUIDING QUESTIONS</p> <ul style="list-style-type: none"> ▪ How are the levels related in your example? ▪ Can your ideas be combined? ▪ How would your ideas affect each other? ▪ What would it take for us to realise our ideas tomorrow? ▪ Do you find it easier to develop ideas on a practical, structural or personal level? 	
	<p>CONTINUE WITH OUR TOOLBOX</p> <p>For a different take on digital futures, try the tool: Criticise your utopia</p>	

EXTRAS	The Power of Three	5
SOURCES	<p>Levels of Change Exercise ^{ENG} Sitra, Levels of Change, https://www.sitra.fi/en/cases/levels-of-change/</p> <p>Spheres of Transformation ^{ENG} Sharma, M. (2007) Personal to planetary transformation. Kosmos Journal. Accessible at https://www.kosmosjournal.org/article/personal-to-planetary-transformation/</p>	
AUTHORS	Philine Janus & Johanna Wallenborn	

MAKING SENSE OF THE FUTURE



Criticise your utopia

Develop a realistic future

Work on concrete ideas for digital futures related to one of the 7 clusters of the *Makings sense of the digital society* compendium. Follow the principle of the *Future Workshop* method and generate an idea lab.



2 hours – 2 days



intermediate





group of at least 4 or larger





printouts and diverse utensils

INTRO	Criticise your utopia	2
<p style="text-align: center;">“What problem does digitalisation solve?”</p> <p style="text-align: center;">— Nassehi, A. (2019) <i>Making sense of the digital society</i>.</p>		
<p>The <i>Future Workshop</i> has proven a popular method in many fields in recent decades. It is applied by companies, in politics, and in the social field. It is a technique used to shed light on a common problematic situation, generate visions of the future, and discuss how these visions can be realised. The method was established in the 1980s by Robert Jungk, Rüdiger Lutz and Norbert R. Müllert, becoming one of the most widespread methods in future studies. A bottom-up method, it is based on the principle of participation and follows the guiding ideal of (all!) citizens shaping their own future.</p> <p>The method follows the following scheme: criticism of the current state, vision of a desired state, and planning of ways to achieve the desired state. The <i>Future Workshop</i> refers to the present society in a playful way, pointing towards a collective, political perspective for action.</p>		
ASSIGNMENT	Work on concrete ideas for digital futures related to one of the 7 clusters of the <i>Making sense of the digital society</i> compendium. Follow the principle of the <i>Future Workshop</i> method and generate an idea lab to develop realistic ways into the future.	
LEARNING GOAL	The aim of this exercise is to create a framework in which to discuss and evaluate the opportunities and risks of the digitalisation of our society. The aim is to engage in an exchange about what desirable digital futures might look like and what is needed to achieve it.	
PREPARATION	Technical equipment for research, flipcharts, moderation cards, pens and paper; if necessary, materials or tools to elaborate the utopia (such as painted posters, photos, videos, audio contributions and role-plays)	

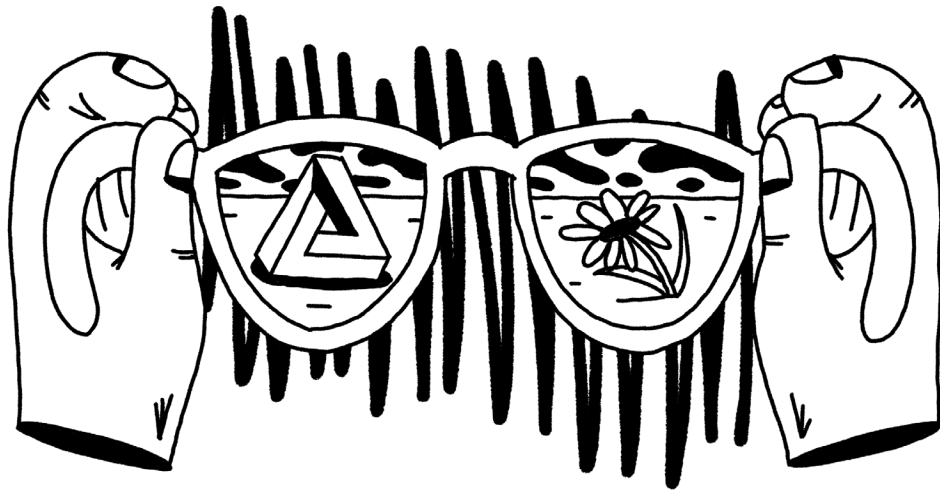
<p>MANUAL</p>	<p>Criticise your utopia</p>	<p>3</p>
<p>LET'S START</p>	<p>The <i>Future workshop</i> technique</p> <p>The Future Workshop is divided into three phases through which the group passes. The intended goal is the development of a concrete, desirable future.</p> <p>I Critique phase make an inventory > Goal: Identify and understand challenges, describe the status quo, use your own subjective concerns as a starting point</p> <p>II Imagination & utopia phase develop an idea of the future without the problem > Goal: Enable innovation, develop ideas, consciously break with the current reality</p> <p>III Realisation & strategy phase find ways to implement the goals from phase II > Goal: Decide and plan</p>	
<p>STEP 1</p>	<p>Introduction to the subject. Research.</p> <p>Form small groups of 3–4 people. In each group, one participant should take on the role of moderator. This person should mediate in discussions and document results, e.g. by writing them on a flipchart.</p> <p>Choose a digital issue or challenge that interests or concerns you. For inspiration, you can also choose an area from the 7 clusters of the <i>Making sense of the digital society</i> compendium and select a problem that is as concrete as possible.</p> <p>Research the topic (the podcast episode of the respective cluster can help for an overview) and follow up with more concrete research on your specific problem. While researching your topic, investigate the opportunities and risks for society and position yourself accordingly.</p>	
<div data-bbox="397 1682 508 1793" style="border: 1px solid black; padding: 5px; display: inline-block;">  </div>	<p>EXAMPLE</p> <p>Cluster: Digitalisation infrastructures</p> <p>Digitalisation and mobility</p> <p>To what extent could digital applications and artificial intelligence contribute to sustainability and climate protection in cities through route optimisation, shared journeys and networked transport planning? What ideas are there for this and how can they be implemented?</p>	

MANUAL	Criticise your utopia	4		
STEP 2	<p>Work through the three phases of <i>Future workshop</i>.</p> <p>I Critique phase</p> <p>Identify the problems related to your issue and name them as precisely as possible. Take notes and write down the most important arguments.</p> <p>Discuss the outcomes of your research and look for the positive and negative aspects of your topic. For example, you could create a scale to collect and visualise the positive aspects (+) and negative aspects (-).</p> <p style="text-align: center;">  </p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> <p>What bothers you; what are you afraid of; what makes you angry? Why?</p> </td> <td style="width: 50%; border: none; vertical-align: top;"> <p>Where do you see opportunities; what developments have excited you and improved your life?</p> </td> </tr> </table> <p>All comments and ideas are relevant and will be collected. Try to be as specific and concrete as possible with your criticisms.</p> <p>II Imagination & utopia phase</p> <p>Imagine a future in which the problems identified in the critique phase no longer occur. This phase tackles the big question – What does our imagined and preferred future look like?</p> <p>No idea, no matter how unrealistic, should be held back – in this phase, nothing has to be tested for its feasibility! Everything is possible!</p> <p>As a starting point you could try to reformulate the criticisms from phase I in a positive way. The scenarios can also be designed visually, medially, or in any other ways that clarify the idea of ‘where we want to go’.</p> <p>III Realisation & strategy phase</p> <p>Think of strategies to implement the goals from phase II.</p> <p>Now utopias meet realities. The task in this phase is to find answers to the following question: Which ways, methods, means and measures can lead to the realisation and implementation of your scenario?</p> <ul style="list-style-type: none"> ▪ What limitations and difficulties can be identified? ▪ Which measures are realistic and feasible under which conditions? ▪ Who can support the group in this? <p>The participants are each other’s corrective here, and should always critically question how realistic and effective the proposed means are or can be.</p>		<p>What bothers you; what are you afraid of; what makes you angry? Why?</p>	<p>Where do you see opportunities; what developments have excited you and improved your life?</p>
<p>What bothers you; what are you afraid of; what makes you angry? Why?</p>	<p>Where do you see opportunities; what developments have excited you and improved your life?</p>			

MANUAL	Criticise your utopia	5
STEP 3	Closure: Collection and presentation of ideas and plans, development of a perspective for action, further networking.	
	<p>GUIDING QUESTIONS</p> <ul style="list-style-type: none"> ▪ What aspects of the other groups' future scenarios particularly impressed you? ▪ Where do you see opportunities and risks? ▪ Can your ideas be related to each other or even combined? ▪ Are there social structures or institutions that might be interested in your idea? ▪ What role does the ability to act play in your plans? 	
	<p>CONTINUE WITH OUR TOOLBOX</p> <p>For a different take on digital futures, try the tool: From Weak Signals to Megatrends</p>	

EXTRAS	Criticise your utopia	6
SOURCES	<p>Future Workshop ^{DE} Zukunftswerkstatt, Robert Jungk Bibliothek für Zukunftsfragen, https://jungk-bibliothek.org/zukunftswerkstaetten/aufbau-und-methoden-der-zukunftswerkstatt</p> <p>Future Workshop ^{DE} Zukunftswerkstatt zum Thema Big Data, Bundeszentrale für politische Bildung, https://www.bpb.de/lernen/digitale-bildung/medienpaedagogik/bigdata/253169/zukunftswerkstatt</p>	
AUTHORS	Philine Janus & Johanna Wallenborn	

MAKING SENSE OF THE FUTURE



From Weak signals to Megatrends

Exploring signals of change

Find signals, innovations and possible trends, and explore possible future scenarios based on one trend. Train your abilities to collect, identify and interpret possible drivers of change, and reflect your assumptions about the future.



60–90 min



intermediate




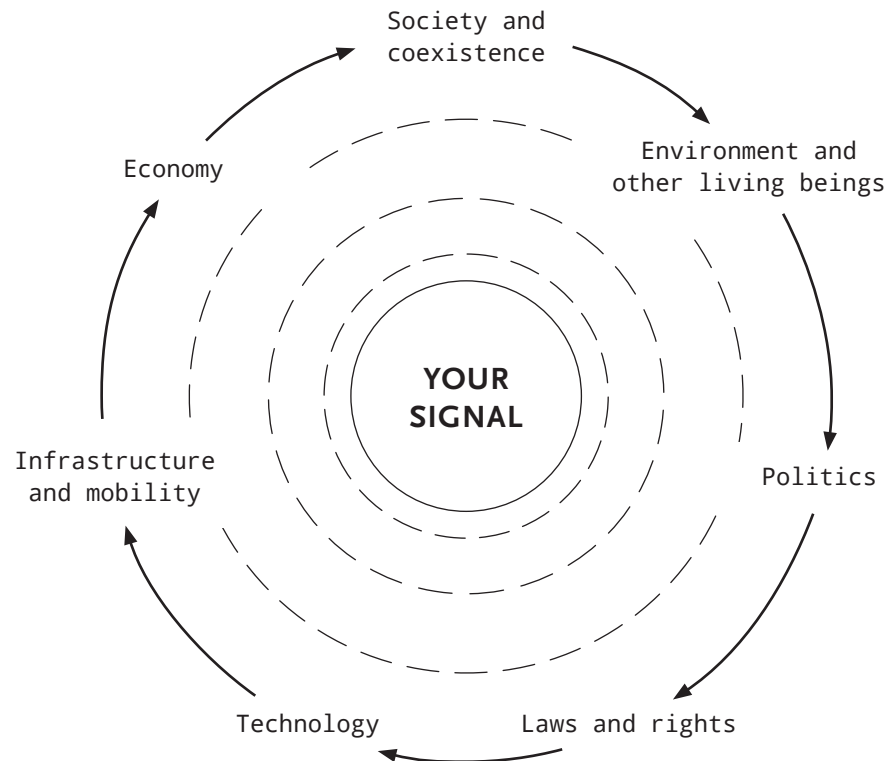
in groups



printouts and diverse utensils

INTRO	From Weak signals to Megatrends	2
<p style="text-align: center;"> “The future is a much better guide to the present than the past. Be prepared, be ready to trade everything you know about history... for a single glimpse of its future.” </p> <p style="text-align: right;">Kodwo, E. (1988) <i>More Brilliant than the Sun.</i></p>		
<p>When anticipating future developments, solely focusing on a continuation of the present can lead you to miss hints and early signals that may be hidden below the surface. One way to explore possible futures is to assess the present for signals, trends and signs of future developments.</p> <p>Fundamental lines of development are often referred to as megatrends: slow, global, yet far-reaching transformation processes that have a lasting impact on the economy, politics, ecology, mobility and society. Current megatrends include the removal of gender stereotypes, a move towards a new culture of pluralism or connectivity, and the novel communication technologies changing the way we interact and do business. However, future drivers of change can often go unnoticed; these are weak signals: warnings, events or developments which are still too incomplete to be fully anticipated. Recognising weak signals expands our view and trains our future thinking.</p>		
ASSIGNMENT	Find signals, innovations and possible trends. What if these signals became stronger? How would they influence different domains of our lives? Explore possible future scenarios based on one signal.	
LEARNING GOAL	By completing this exercise you will train your abilities to collect, identify and interpret possible drivers of change, and will thereby be able to challenge and reflect on your assumptions about the future. This will help you identify possible new paths by recognising signals in everyday life and their impact.	
PREPARATION	Print out the attached templates (your signal + 7 areas) for each group (3–5 people) and place them on a whiteboard or wall (see sketch below). Bring sufficient pens and colourful post-its.	

MANUAL	From Weak signals to Megatrends	3
LET'S START	<p>Heighten your senses and extend your sensors:</p> <ul style="list-style-type: none"> ▪ What novelty (app, device, feature, rumour, news) has surprised you recently? ▪ Have you heard about a development in a report that you were unaware of? ▪ Has a friend told you about an unconventional innovation? ▪ Have you come across a recent study that startled you? ▪ Or have you overheard a conversation or observed something unexpected in public? 	
STEP 1	<p>Form groups of 3–5 persons. Think of a signal that challenges your current assumptions or world views. Decide on one signal together.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px 0;">  </div> <p>WEAK SIGNALS AND MEGATRENDS</p> <p>Weak signals have the following key characteristics:</p> <ul style="list-style-type: none"> ▪ unusual, surprising information that does not fit into existing expectation grids ▪ they can be interpreted as omens or harbingers of future changes ▪ weak signals are, in particular, warnings, events or developments that are still too incomplete to enable an accurate assessment of their impact and/or to permit a determination of reactions <p>Megatrends have the following key characteristics:</p> <ul style="list-style-type: none"> ▪ global ▪ long-term (they take effect slowly and gradually over decades) ▪ far-reaching transformation processes that have a lasting impact on the economy, technology, ecology, politics and society 	
STEP 2	<p>Examine the signal more closely: combine your signal with the 7 areas of the printed out templates. In which ways could it impact different areas within a timeline of 10 years from now? The areas are: Society and coexistence, environment and other living beings, politics, laws and rights, technology, infrastructure and mobility, and economy.</p> <p>Note down your ideas on a post-it and place them on the template next to the affected area. Explore the scenario further by moving along the different areas and discuss together.</p>	



EXAMPLE

Health consciousness vs. sterile society

In recent decades, an increased awareness of health has developed in many societies. We are encouraged to live more healthily and optimise our bodies and our lifestyle. This trend is often accompanied by digital offerings (such as fitness apps, pedometers, heartrate trackers and menstrual cycle apps).

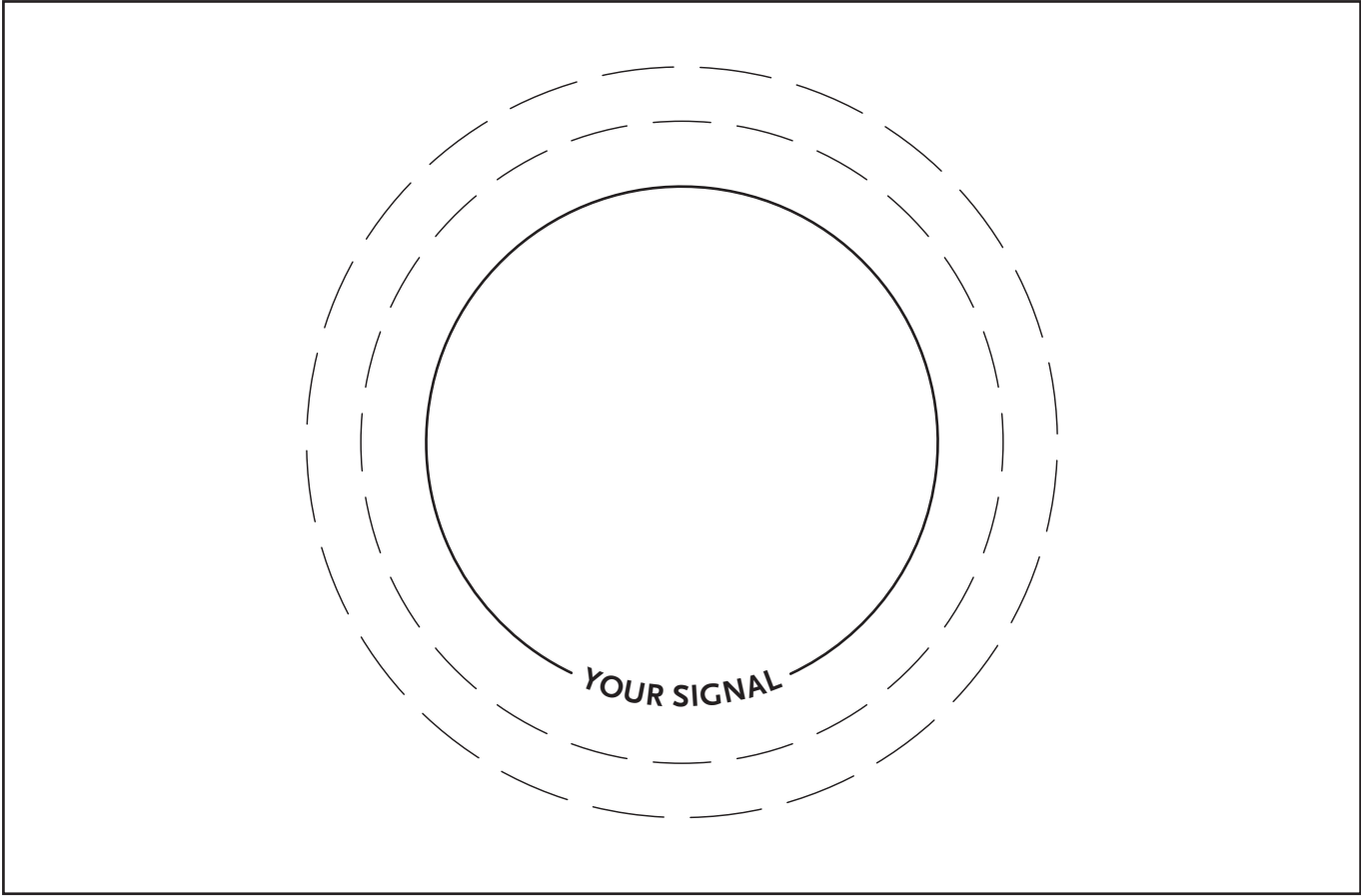
This trend has been further amplified by the global Coronavirus Pandemic. We have learnt to take preventative measures such as limiting our social lives and changing our hygiene routines.

How can we think about this trend further?

On the one hand, a healthy and sustainable life is desirable and worth aiming for. On the other hand, it raises the question of how we want to use digital services in the future, protect our privacy, and reconnect in social and cultural spheres. In many areas, a healthy life is also associated with privileges. How can services be made accessible to all? What scenarios and development paths are conceivable?

MANUAL	From Weak signals to Megatrends	5
STEP 3	<p>Discuss your results in a group.</p> <ul style="list-style-type: none"> ▪ What would it take for your signals to become a megatrend? ▪ Do you have any ideas on how to influence trends? ▪ What would be the positive and negative effects of your examples? ▪ What social factors would remain unchanged? ▪ Speculate: How could your signal develop within a timeline of 20 or 30 years? What will happen if the signal evolves into a megatrend? 	
	<p>CONTINUE WITH OUR TOOLBOX</p> <p>For a different take on digital futures, try the tool: Transform future language</p>	

EXTRAS	From Weak signals to Megatrends	6
SOURCES	<p>Weak signals ^{EN} Holopainen, M. & Toivonen, M. (2012). "Weak signals: Ansoff today", Futures, https://doi.org/10.1016/j.futures.2011.10.002</p> <p>Weak signals ^{EN} "Using Weak Signals for Business". Go For. Accessible at https://gofore.com/en/using-weak-signals-in-business</p> <p>Weak signals ^{EN} Schoemaker, P. & Day, G. (2009) "How to Make Sense of Weak Signals". MIT Sloan Review. Accessible at https://sloanreview.mit.edu/article/how-to-make-sense-of-weak-signals</p> <p>Megatrends ^{DE} Steinmüller, K. (2014). "Zukunftstrends 2025". Z Punkt. Accessible at https://steinmuller.de/de/zukunftsforschung/papers/Artikel_Oberfl.pdf</p>	
AUTHORS	Authors: Philine Janus & Johanna Wallenborn	



Infrastructure and mobility



Economy

Politics



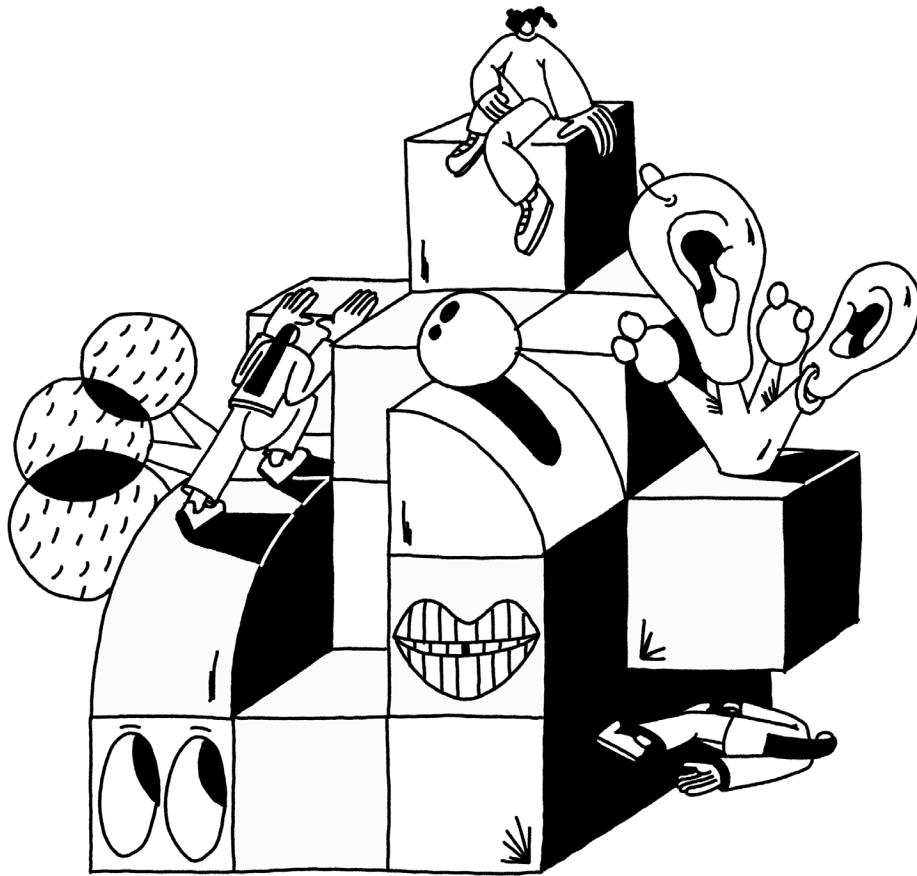
Technology

Environment and
other living beings



Law and rights

MAKING SENSE OF THE FUTURE



Transform future language

Deconstruct and reconstruct future metaphors

This exercise invites you to uncover the hidden assumptions and concepts within the language used in relation to digital future(s). Test and reflect on language-reflexive and critical approaches to thinking about futures.



45–60 min



advanced





alone or in groups





printouts and pens

INTRO	Transform future language	2
<p style="text-align: center;"> “Future exists only as a linguistically formulated future. [...] This is because we don’t have current physical or scientific access to the future since no one can observe future presences [...]. And due to our lack of linguistic access with regard to the future, the way we talk about the future today is of crucial importance.” </p> <p style="text-align: center;"> <i>Grunwald, A. (2009) Wovon ist die Zukunftsforschung eine Wissenschaft?</i> </p>		
<p>This exercise is dedicated to challenging inherent assumptions and current reality to uncover alternative worldviews. By examining common metaphors and narratives, foundations of our thinking can be uncovered and challenged. Metaphors are figures of speech in which a word or phrase denoting one kind of object or action is used in place of another to suggest a likeness or analogy between them. Through transforming metaphors and myths associated with narratives, the present can be reframed and new futures can be opened.</p> <p>When we think and talk about the future, we use concepts of the past to imagine and explain future developments. Our construction of reality takes place through communication, which in turn shapes our view of the world through metaphors. Metaphors can describe new phenomena by describing one kind of thing in terms of another – yet they carry normative implications that shape our thoughts and are further cultivated through discourse.</p>		
ASSIGNMENT	<p>In this assignment, <i>Causal Layered Analysis</i> is introduced. Deconstruct and reconstruct metaphors about digital futures and practice language-reflexive and critical approaches to thinking about futures.</p>	
LEARNING GOAL	<p>This exercise invites you to uncover the hidden assumptions and concepts within our language and discourses around digital futures. You will gain awareness of how language shapes our understanding of the world. By completing this exercise you will be able to create transformative spaces for the creation of alternative futures.</p>	
PREPARATION	<p>Print out the canvas and bring sufficient pens.</p>	

<p>MANUAL</p>	<p>Transform future language</p>	<p>3</p>
<div data-bbox="397 247 508 358" style="border: 1px solid black; padding: 5px; text-align: center;">  </div>	<p>EXAMPLE</p> <p>Data is the new gold</p> <p>What is the source domain on which the metaphor is built?</p> <p>“Data is the new gold” is a resource-based metaphor (“Goldrush” metaphor). The economic potential of data can be harnessed for private or public benefit.</p> <p>What normalities and “self-evident” facts are conveyed?</p> <p>Data is seen as a material that can be exploited for profit (profit thinking).</p> <p>What does the metaphor hide?</p> <p>The exploration and extraction of oil and gold is a highly skilled and capital-intensive activity.</p> <p>What connotations does the metaphor entail?</p> <p>It could also be seen as a natural metaphor, implicitly implying that data is “naturally beyond political control”. It further suggests that the exploitation of resources results in prosperity.</p>	
<p>LET'S START</p>	<p>This assignment is focused on the 4th layer of <i>Causal Layered Analysis</i>: Metaphors and Myths.</p> <div data-bbox="397 1327 508 1437" style="border: 1px solid black; padding: 5px; text-align: center;">  </div> <p>THE TECHNIQUE OF CAUSAL LAYERED ANALYSIS</p> <p>Litany: The official description of a problem. Formulated as an externalised reality, often disconnected from other perspectives, e.g. a newspaper headline such as “AI will take over all our jobs”.</p> <p>Systemic causes: Short-term analysis of a given problem. Historical variables are explored. Systemic causes can be found in e.g. policy reports.</p> <p>Worldview/discourse: Discern deeper assumptions behind the problem and try to understand the issues from multiple worldviews/perspectives, e.g. neoliberal perspectives vs ecological worldviews or rational vs spiritual perspectives. Engage in critical thinking!</p> <p>Metaphors and myths: Analysis of deep stories and unconscious dimensions of a problem. Metaphors and myths underpin and support worldviews. By uncovering metaphors and reconstructing them into new metaphors, new narratives can be formed that enable new solutions.</p>	

MANUAL	Transform future language	4
STEP 1	<p>What metaphors of digitalisation come to mind? Choose a metaphor about digitalisation that interests you, or pick one from the following:</p> <ul style="list-style-type: none"> ▪ web ▪ platform ▪ data is the new gold ▪ digital player ▪ cloud ▪ echo chamber ▪ virus ▪ artificial intelligence 	
STEP 2	<p>Engage critically with the metaphor and challenge the worldview connected to it.</p> <p>Analyse the selected metaphor along with these questions:</p> <ul style="list-style-type: none"> ▪ What does this metaphor entail? ▪ What is the source on which the metaphor is built on? ▪ What problems does the metaphor refer to? ▪ What connotations does the metaphor entail? ▪ What normalities and seemingly self-evident facts are conveyed? ▪ What does the metaphor hide? ▪ What fears, constraints and freedoms emanate from the metaphor? 	
STEP 3	<p>Reconstruct your metaphor by giving it a new meaning or applying a different concept:</p> <ul style="list-style-type: none"> ▪ Can you reverse the meaning of the metaphor? ▪ What might be a new metaphor or different narrative? <p>Based on your new metaphor, answer the following questions, moving on the canvas from bottom to top:</p> <ol style="list-style-type: none"> 1 How does this new metaphor affect worldviews? 2 How does the future imagined in your metaphor affect systemic causes? 3 Draft a problem or litany (e.g. in the form of a newspaper headline) based on that future image. 4 What possible implications and problems might arise from this alternative metaphor? 	

MANUAL	Transform future language	5
STEP 4	Present your original and transformed metaphors and your litany to the group and collectively discuss your results. What are the underlying assumptions and worldviews, and how do your alternative metaphors shape our perception? What new realities might arise from your transformed metaphor?	
	<p>GUIDING QUESTIONS</p> <ul style="list-style-type: none"> ▪ What worked well? ▪ What is a new narrative or metaphor that would support your preferred future? ▪ Out of these alternative futures emerging from the new metaphors, which is your preferred one? ▪ What other metaphors can be imagined? ▪ How could the underlying worldviews of your new metaphors be supported by practice? ▪ Which strategies can be employed for you to realise the preferred future? 	
	<p>CONTINUE WITH OUR TOOLBOX</p> <p>For a different take on digital futures, try the tool: Newspaper from 2040.</p>	

EXTRAS	Transform future language	6
SOURCES	<p>Metaphors ^{EN} Lakoff, G. & Johnson, M. (1980) Metaphors we live by. Chicago, University of Chicago Press.</p> <p>Digital Metaphors ^{EN} Alexander von Humboldt Institut für Internet und Gesellschaft (2017) Dossier. Metaphern der Digitalen Gesellschaft</p> <p>Digital Metaphors ^{EN} Wyatt, S. (2021) Metaphors in Critical Internet and Digital Media Studies New Media & Society, 23(2), 406–416. doi:10.1177/1461444820929324.</p> <p>Metaphors Definition ^{EN} Merriam Webster Dictionary (n.d.) Metaphor, https://www.merriam-webster.com/dictionary/metaphor</p> <p>Systematic Metaphor Analysis ^{DE} Schmitt, R., Schröder, J., & Pfaller, L. (2018). Systematische Metaphernanalyse. Springer Fachmedien Wiesbaden. doi:10.1007/978-3-658-21460-9</p> <p>Future Studies ^{DE} Grunwald, A. (2009) Wovon ist die Zukunftsforschung eine Wissenschaft?. In: Reinhold Popp & Elmar Schüll (Hrsg) (2009): Zukunftsforschung und Zukunftsgestaltung. Beiträge aus Wissenschaft und Praxis. Springer, Berlin, Heidelberg.</p> <p>Causal Layered Analysis ^{EN} Inayatullah, S. (1998) Causal Layered Analysis: Poststructuralism as Method. Futures, doi:10.1016/S0016-3287(98)00086-X</p> <p>Causal Layered Analysis ^{EN} Inayatullah, S. (2017) Causal Layered Analysis A Four-Level Approach to Alternative Futures RELEVANCE AND USE IN FORESIGHT</p> <p>Causal Layered Analysis ^{DE} Schmitt, R., Schröder, J., & Pfaller, L. (2018) Systematische Metaphernanalyse. Springer Fachmedien Wiesbaden, doi:10.1007/978-3-658-21460-9</p>	
AUTHORS	Authors: Philine Janus & Johanna Wallenborn	

LITANY

SYSTEMIC CAUSES

WORLDVIEW/DISCOURSE

METAHPORS AND MYTHS



LITANY

SYSTEMIC CAUSES

WORLDVIEW/DISCOURSE

METAHPORS AND MYTHS

MAKING SENSE OF THE FUTURE



Newspaper from 2040

Think ahead and write creatively

This tool introduces you to creative writing and speculative thinking. Imagine yourself as a journalist from 2040 and write an informative article: develop your own utopian future scenario driven by digital change within society.



2–4 hours



advanced





alone or in groups




internet access

INTRO	Newspaper from 2040	2
<p style="text-align: center;">“THE future cannot be predicted, but preferred futures can be envisioned and created.”</p> <p style="text-align: right;">Dator, J. (1995) <i>What Future Studies is, and is not.</i></p>		
<p>What will our digital society look like in 2040? How will we live and love, how will we shape teaching and work, and how will our legal system change?</p> <p>The <i>twentyforty approach</i> refers to a way of working that was developed in the 2019 HIIG project <i>twentyforty</i>. In an international essay competition, scientists were given a platform to create utopias beyond usual research. The visionary stories address the opportunities and challenges that digital technologies pose for society in the future of 2040. Along the five categories (love, live, learn, work and rule), thirteen scholars developed knowledge-based scenarios for the year 2040.</p> <p>This exercise invites you to try the <i>twentyforty approach</i> and report as a journalist from the year 2040.</p>		
ASSIGNMENT	<p>This tool introduces you to creative writing and speculative thinking using the twentyforty approach. Decide on one aspect – Live, Love, Learn, Work, or Rule – from the year 2040 that has changed and improved due to a digital development and write an informative article: develop your own utopian future scenario driven by digital change within society. Speculate, criticise, imagine and develop!</p>	
LEARNING GOAL	<p>This assignment encourages you to apply speculative thinking and make the future more commonplace. It is an invitation to research, think ahead, and write creatively.</p>	
PREPARATION	<p>No preparations are necessary other than providing writing materials and access to the Internet.</p>	

MANUAL	Newspaper from 2040	3
LET'S START	<p>Imagine you are a journalist reporting from 2040. You are writing an article on a new digital development or possible impacts of such a development on our society. Your article is intended to develop a desirable vision of the future: it could be a solution to a current or emerging problem.</p> <p>What are the new innovations, changes or curiosities in the world of work, government policy, love and relationships, or the educational system in 2040?</p>	
STEP 1	<p>Choose one of the 5 <i>twentyforty</i> categories – Live, Love, Learn, Work, or Rule – and write an imaginary article on a topic of your choice:</p> <p>It is the year 2040. What is the headline of your article? What problem, achievement, or news does the article discuss? Try to be as precise as possible. To do this, it is advisable to start with a factual situation or problem from today. How will this situation or problem have developed in 2040?</p> <p>You are free to write just a short breaking news note, a cover story, an interview, or a long report. Don't be afraid to find a format that suits you.</p>	
<div data-bbox="397 1157 506 1271" style="border: 1px solid black; padding: 5px; display: inline-block; text-align: center;">  </div>	<p>EXAMPLES</p> <p>Are there new dating apps in 2040? How do they work?</p> <p>Imagine that algorithms affect our choice of partners and forms of relationships.</p> <ul style="list-style-type: none"> > See how Kamel Aiji answered this question in his story 'The End of Feelings' on twentyforty.hiig.de <p>Imagine if NLP (Natural Language Processing) – today used for commercial and political manipulation – was used for sustainable and positive purposes!</p> <ul style="list-style-type: none"> > Emma Beauxis-Aussalet has developed a future scenario in relation to this question. <p>Will there be more sophisticated laws that can better protect our privacy online? What would such laws look like?</p> <ul style="list-style-type: none"> > check out Claire Bessant's answer in: 'What would you rather be: A privacy Have or a Privacy Have-Not?' <p>How does our healthcare system work? How do we communicate? Are there new forms of transportation? How sustainable has our society become? How has schooling changed and by what?</p>	

MANUAL	Newspaper from 2040	4
STEP 2	<p>Find answers: Why and how did your issue occur? Who is it affecting and how? Who is profiting from it? Research and find 2–4 sources (such as studies, paper, articles, podcasts, talks) on which you will base your article on. Our extensive collection of materials, the <i>Making sense of the digital society</i> compendium, can help you with this.</p> <p>> www.hiig.de/en/making-sense-compendium</p>	
STEP 3	<p>Try to identify factors that could help your vision come true. How could digital technology help to solve your issue? What is (not) a solution? How can it be modeled? How should it be defined to be resolvable?</p> <p>To develop a plan to achieve your vision, you could think of critical factors in three categories:</p> <ul style="list-style-type: none"> ▪ Existing processes and systems that are moving in the direction of your vision, and how they can be enhanced and maintained. ▪ Existing processes and systems that stand in the way of your preferred future, and how they can be overcome or marginalised. ▪ New processes and systems that do not currently exist that need to be envisioned, invented, nurtured, and maintained to help achieve your preferred future. <p>When writing your article, identify critical knowledge gaps that need to be closed to create a solution. The designed solution should be beneficial to society and the environment. Try to pass on as much knowledge as possible to understand your chosen problem and your future scenario.</p>	
<div data-bbox="397 1395 508 1510" style="border: 1px solid black; padding: 5px; display: inline-block;">  </div>	<p>CHARACTERISTICS OF A TEXT UNDER JOURNALISTIC CRITERIA</p> <p>First things first: The questions “who”, “what”, “when”, “where” and “from which source does the news come” should be answered right at the beginning of the article.</p> <p>Message, news, report: These texts do not evaluate or express an opinion. They are fact-based and provide news. Their function is to provide readers with knowledge about events that are both new and informative for them. > Personal and individual impressions and opinions are incorporated into this type of text through interview voices.</p> <p>Op-ed, comment, editorial letter: An op-ed, short for “opposite the editorial page”, is a written prose piece in a newspaper or magazine expressing the opinion of an author.</p>	

<p>MANUAL</p>	<p>Newspaper from 2040</p>	<p>5</p>
<div data-bbox="397 247 508 358" style="border: 1px solid black; padding: 5px; text-align: center;">  </div>	<p>HINTS ON WRITING SCENARIOS OF PREFERRED FUTURES</p> <p>General guiding questions to help you shape your article:</p> <ul style="list-style-type: none"> ▪ What is the title of your article? Try to make it provocative and interesting ▪ Who is your article aimed at? ▪ Does it appear in a scientific newspaper, a daily newspaper, an online portal, or on social media? ▪ Where is your article located? ▪ What is the specific problem area you are describing? ▪ Who are its actors? ▪ Which institutions are involved in your case? ▪ Are there pros and cons? <p>A timeline to 2040</p> <p>Construct a timeline of the way developments should unfold as you move towards your preferred future in the year 2040. This timeline can help you describe your article as you can go into detail about various intermediate steps and incidents that led to your vision.</p> <p>On the timeline identify:</p> <ol style="list-style-type: none"> 1 Things that almost certainly will happen between now and 2040 (such as elections, inventions, developments, and sports or societal events). 2 Technological developments that seem likely/possible by 2040 on the basis of existing knowledge, research and funding. 3 Technological and other developments that require plausible breakthroughs to happen by 2040. 4 Technological and other developments that seem highly unlikely now, but which would help you achieve your preferred future if they were to occur. 	
<p>STEP 4</p>	<p>If you have worked in a group, read your articles to each other. Discuss your scenarios.</p> <p>Alternatively, send your articles to people you would like to discuss your scenario with.</p>	

<p>MANUAL</p>	<p>Newspaper from 2040</p>	<p>6</p>
<div data-bbox="397 247 508 362" data-label="Image"> </div>	<p>GUIDING QUESTIONS</p> <ul style="list-style-type: none"> ▪ Where do you see opportunities? Risks? ▪ How could your ideas be developed further? ▪ Where do you see commonalities in your developed future visions? Where do they differ? 	
<div data-bbox="397 1832 508 1947" data-label="Image"> </div>	<p>CONTINUE WITH OUR TOOLBOX</p> <p>If you have worked on the toolbox in the order we suggested, this is the last exercise. However, the exercises can also be done in other orders.</p> <p>If you want to delve deeper into digital futures, try the other exercises from our toolbox.</p>	

EXTRAS	Newspaper from 2040	7
SOURCES	<p>Compendium: Making Sense of the Digital Society ^{EN + DE} https://www.hiig.de/en/making-sense-compendium</p> <p>Storytelling and Future ^{EN} McDowell, A. (2019) Storytelling shapes the Future. <i>Journal of Futures Studies</i>. DOI:10.6531/JFS.201903_23(3).0009, https://jfsdigital.org/articles-and-essays/vol-23-no-3-march-2019/storytelling-shapes-the-future</p> <p>Hints on writing scenarios of preferred futures ^{EN} Dator, J. (1994) <i>Some hints on writing scenarios of preferred futures</i>, http://www.futures.hawaii.edu/publications/futures-theories-methods/WritingScenarios1994.pdf</p> <p>Twentyforty: Download of the publication ^{EN} Fecher, B. (2020) <i>Twentyforty – Utopias for a digital society</i>. DOI: 10.5281/zenodo.3678207, https://twentyforty.hiig.de</p>	
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