

Digital first: De toekomst van toegankelijkheid

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Gül Akcaova

Lead futurist

Gul.akcaova@surf.nl

- With SURF since 2019
- Business administration & management sciences
- Lifelong learning

- SURF Tech Trends
- Gartner Futures Lab
- European Digital Education Hub

| (waarschijnlijk) bekend om



eduroam



SURFspot



Wat we doen

Kennisdeling en coördineren samenwerking

op het gebied van onderwijs, onderzoek en innovatie



Leveren IT-diensten

(50+ en zeer divers) om IT toegankelijk, gemakkelijk en veilig te maken



Collectieve inkoop onder de beste voorwaarden

In kosten maar ook in publieke waarden



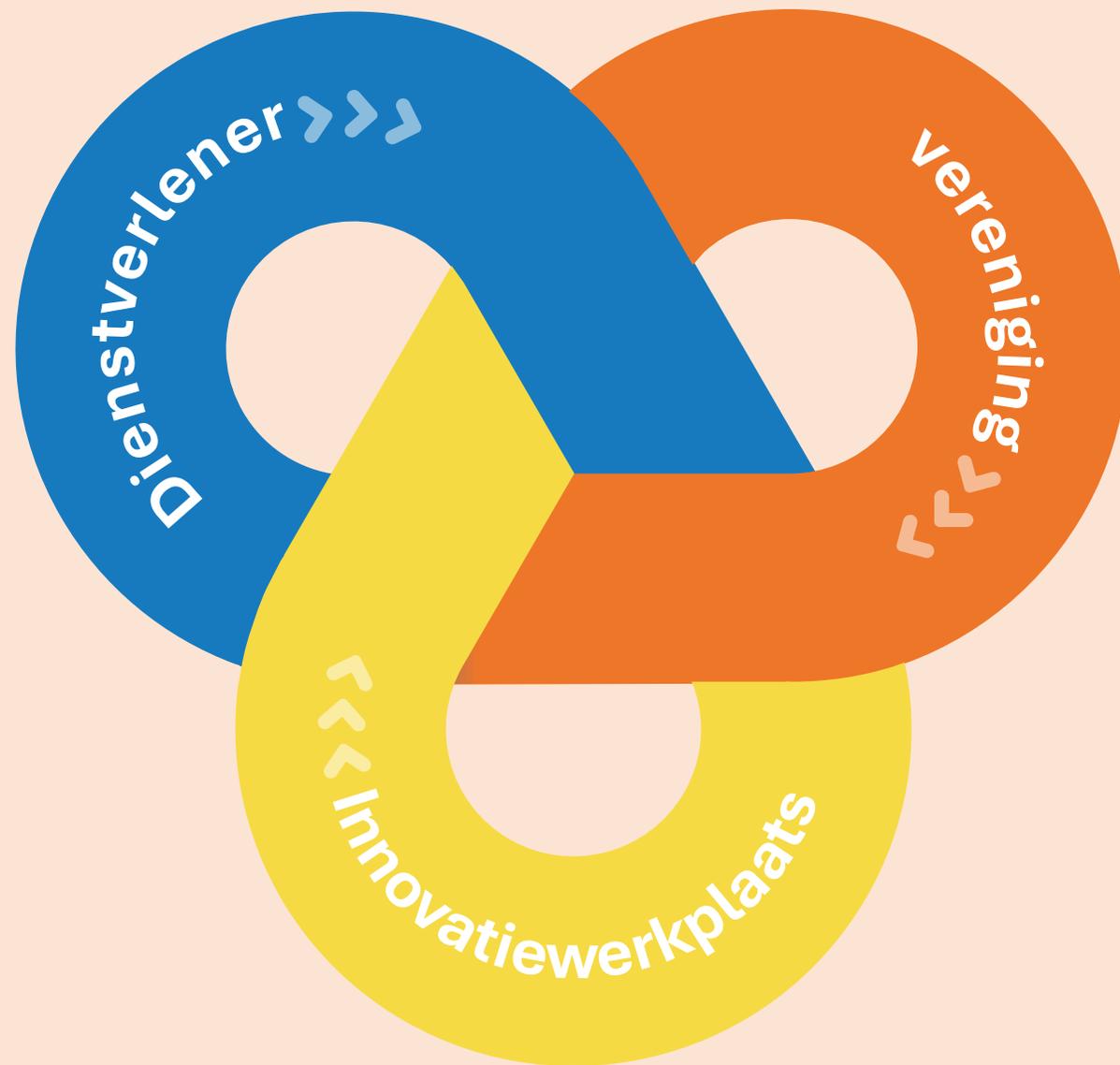
Samen innoveren

Om ervoor te zorgen dat we klaar zijn voor de toekomst



De
not-for-profit
samenwerkingsorganisatie
voor digitalisering in
Nederlands onderwijs en
onderzoek

De drie rollen van SURF die elkaar versterken om samen te groeien.



SURF

Erasmus Universiteit Rotterdam
Open Universiteit
Radboud Universiteit Nijmegen
Rijksuniversiteit Groningen
Technische Universiteit Delft
Technische Universiteit Eindhoven
Tilburg University
Universiteit Leiden
Universiteit Maastricht
Universiteit Utrecht
Universiteit van Amsterdam
University of Twente
Vrije Universiteit Amsterdam
Wageningen University

Academisch Medisch Centrum Amsterdam
Academisch Ziekenhuis Maastricht
Erasmus Universitair Medisch Centrum
Leids Universitair Medisch Centrum
Radboudumc
Universitair Medisch Centrum Groningen
Universitair Medisch Centrum Utrecht
VUmc

Iselinge Hogeschool
Marnix Academie
NHL Stenden Hogeschool
Saxion
Thomas More Hogeschool
Van Hall Larenstein University of Applied Sciences
Windesheim
Zuyd Hogeschool
Aeres Hogeschool
Amsterdamse Hogeschool voor de Kunsten
ArtEZ Hogeschool voor de kunsten
Avans Hogeschool
Breda University of Applied Sciences
Codarts Rotterdam
Christelijke Hogeschool Ede
De Haagse Hogeschool
Design Academy Eindhoven
Driestar hogeschool
Fontys Hogescholen
HAS Hogeschool
HZ University of Applied Sciences
Hanzehogeschool Groningen
Hogeschool de Kempel
Hogeschool der Kunsten Den Haag
Hogeschool Inholland
Hogeschool iPabo
Hogeschool KPZ
Hogeschool Leiden
Hogeschool Rotterdam
Hogeschool Utrecht
Hogeschool van Amsterdam
Hogeschool van Arnhem en Nijmegen
Hogeschool Viaa
Hogeschool voor de Kunsten Utrecht
Hotelschool The Hague

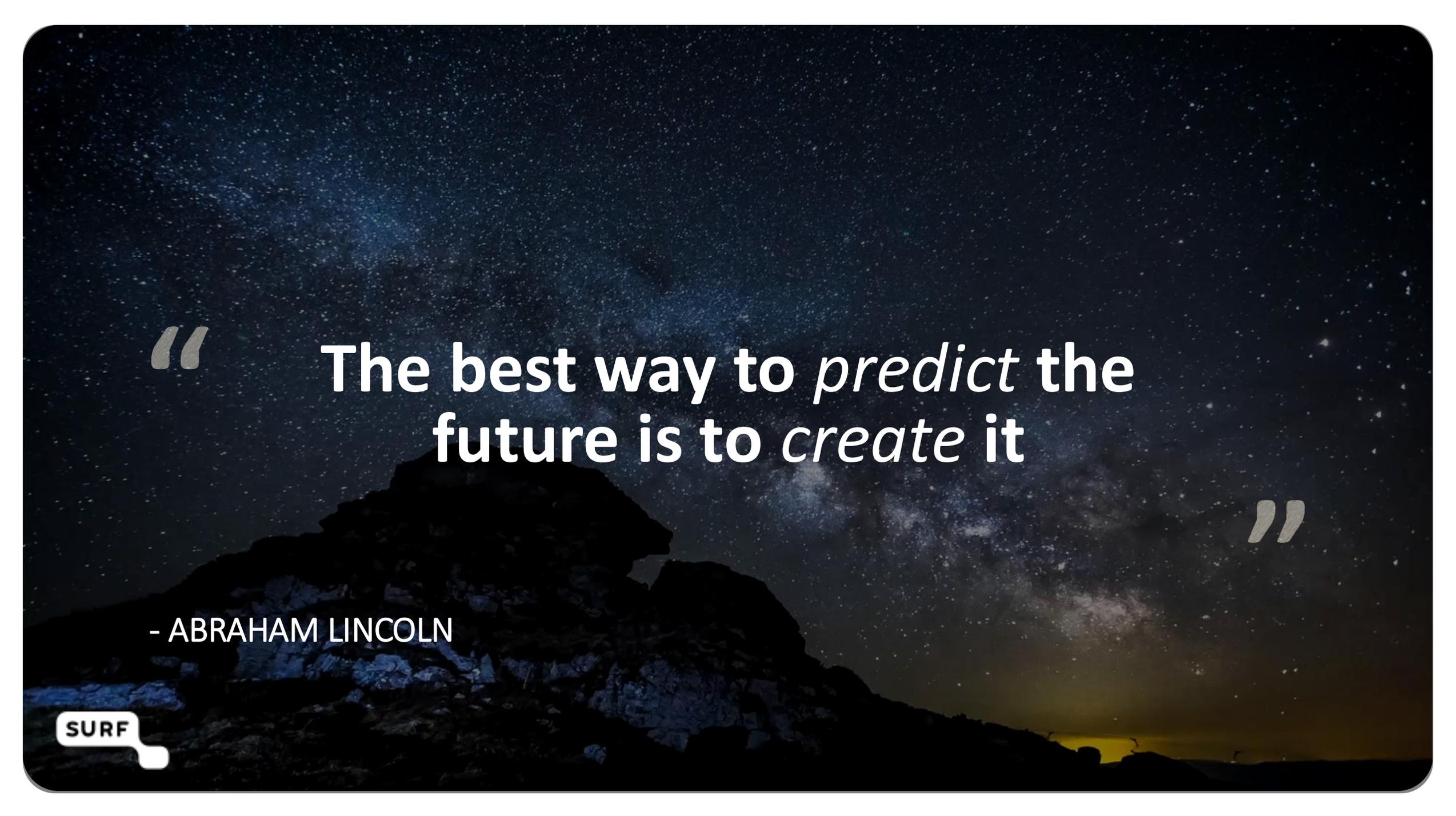
Integraal Kankercentrum Nederland
KNMI
Koninklijke Nederlandse Akademie van Wetenschappen
Naturalis Biodiversity Center
Nederlands Forensisch Instituut
Nederlandse Organisatie voor Wetenschappelijk Onderzoek
RIVM
ZonMw

Koninklijke Bibliotheek
Nationaal Archief
Politieacademie
SIVON
TNO
Universiteit voor Humanistiek

Aeres Groep (Groenhorst College)
Albeda College
Christelijke Onderwijs Groep Vallei & Gelderland-Midden
CIBAP vakschool voor vormgeving
Curio
Da Vinci College
De Rooi Pannen
Deltion College
Drenthe College
Friesland College
Gilde Opleidingen
Graafschap College
Grafisch Lyceum Rotterdam
Grafisch Lyceum Utrecht
Hout- en Meubilerings College
Koning Willem I College

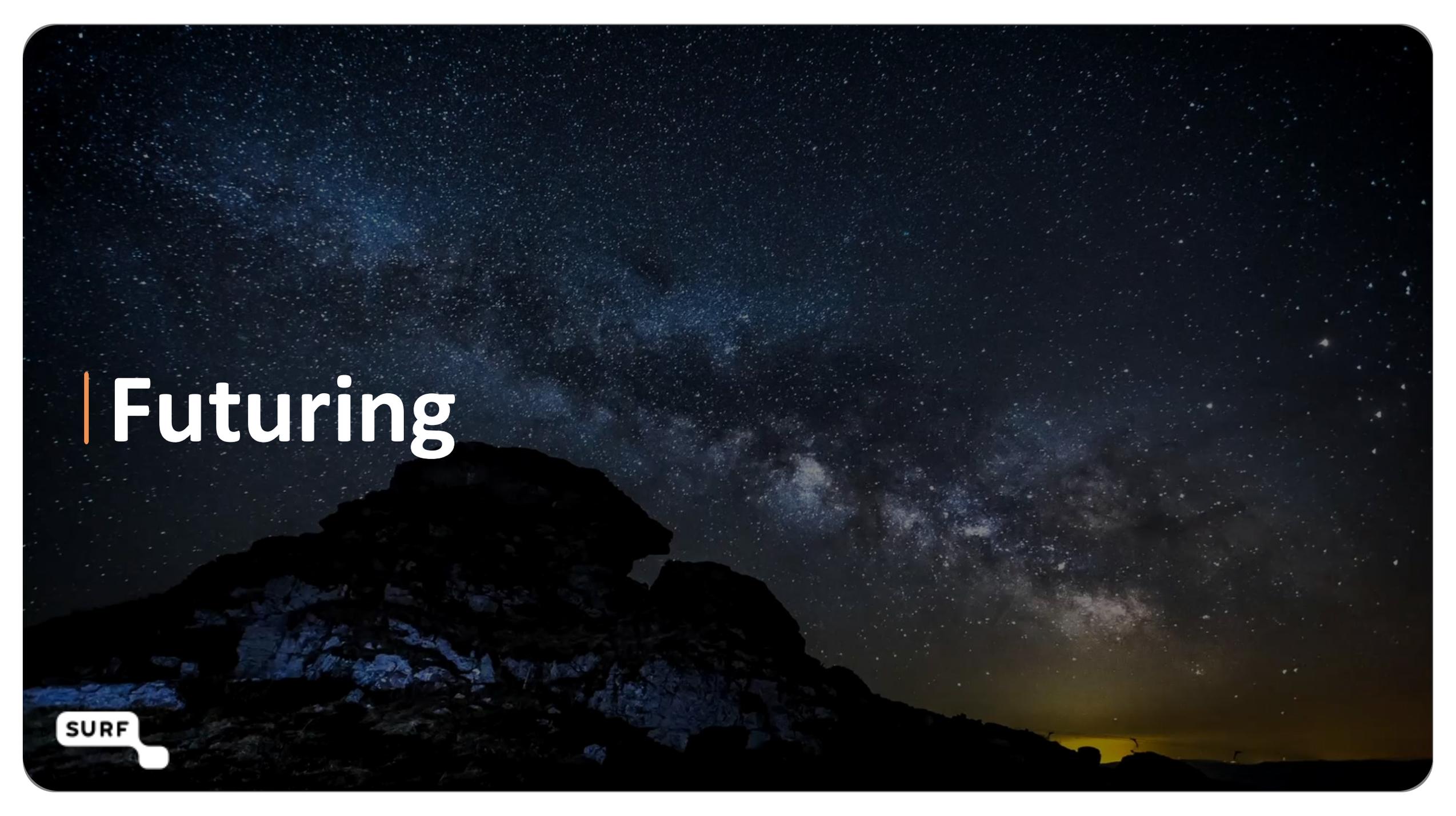
Landstede MBO
Leidse instrumentmakers School
Lentiz Onderwijsgroep
MBO Amersfoort
MBO Utrecht
MboRijnland
Nimeto Utrecht
Noorderpoort
Onderwijsgroep Tilburg
ROC Alfa-college
ROC Aventus
ROC Friese Poort
ROC Horizon College
ROC Midden Nederland
ROC Mondriaan
ROC Nijmegen
ROC Nova College
ROC Rivior
ROC Ter AA
ROC TOP
ROC van Amsterdam-Flevoland
ROC van Twente
Regio College
Rijn IJssel
SintLucas
SOMA College
SORG - Stichting voor Onderwijs op Reformatorische Grondslag
STC-Group
Stichting Vakinstelling SVO
Summa College
Terra
Vista College
Vonk
Yuverta
Zadkine
Zone.College





“ The best way to *predict* the
future is to *create* it ”

- ABRAHAM LINCOLN

A night sky photograph featuring the Milky Way galaxy stretching across the frame. The foreground consists of dark, jagged rock formations. The overall scene is dark, with the stars of the galaxy providing the primary light source.

| Futuring

| Foresight / Futuring is...

- 🧠 Active imagination
- 🔍 Identifying and disseminating images of the future
- 🔄 Relating past, present, and future



| Strategic foresight

- Better understand
- Deal with uncertainty
- Anticipate and prepare
- Empowerment and agency

Ultimately, support decision-making to remain relevant!

SURF





Futures fallacies

OUR DETRIMENTAL THINKING PATTERNS WHEN THINKING ABOUT THE FUTURE



LINEAR PROJECTION

ERROR OF PRESUMING THAT FUTURE CHANGE WILL BE A SIMPLE & STEADY EXTENSION OF PAST AND CURRENT TRENDS



ALL ELSE UNCHANGED

ERROR OF CONSIDERING ONLY A FEW ASPECTS OF CHANGE WHILE HOLDING ALL ELSE EQUAL



THE ARRIVAL

ERROR OF ENVISIONING POSSIBLE FUTURES AS STATIC OBJECTS SUCH AS DESTINATION OR GOAL



THE PREDICTION/PLANNING

ERROR OF BELIEVING IT IS POSSIBLE TO PREDICT/PLAN THE FUTURE



FUTURE PERSONAL EXEMPTION

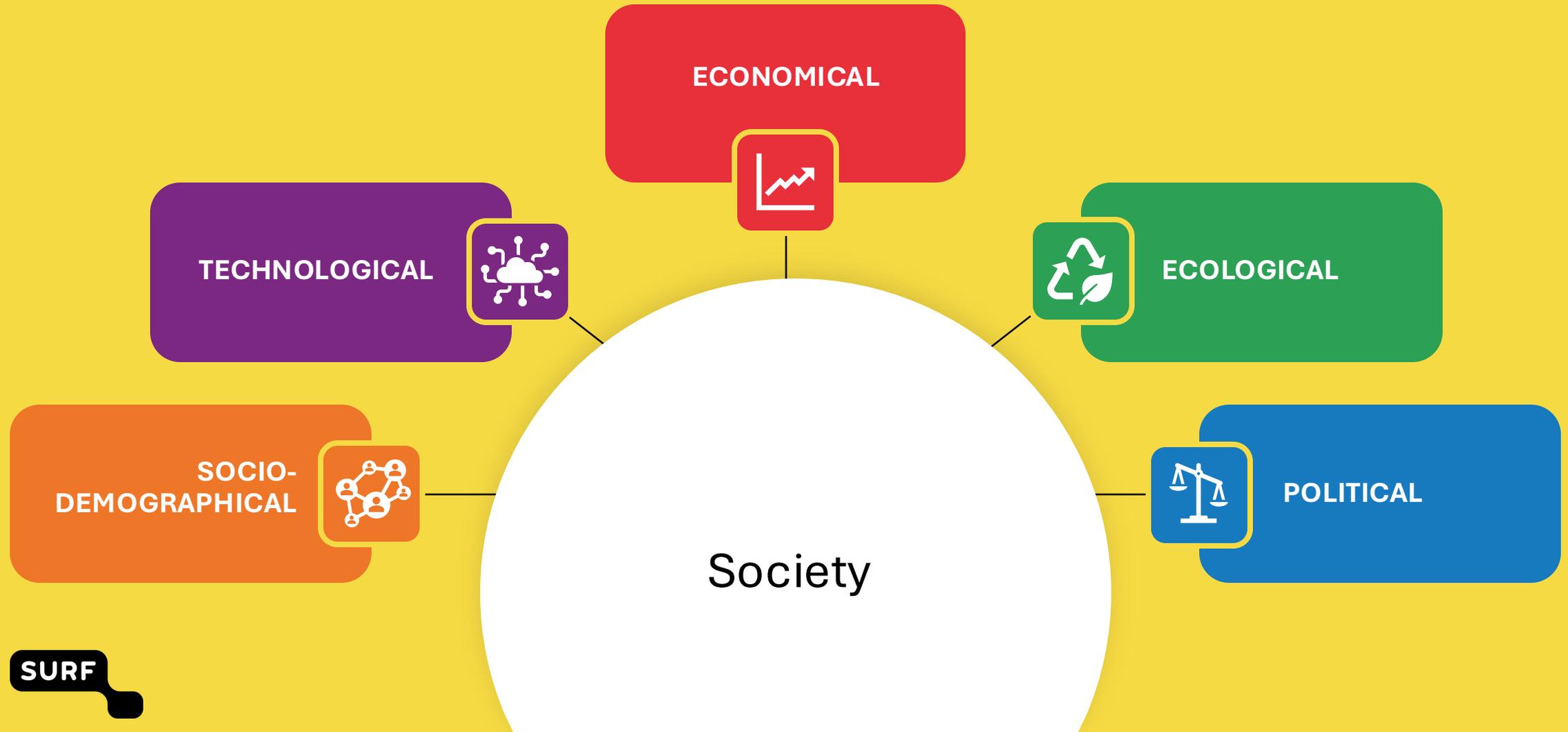
ERROR OF BEING OVERLY OPTIMISTIC ABOUT ONE'S OWN FUTURE DESPITE THE REALISTIC OR EVEN DYSTOPIAN TAKE ON OUR COLLECTIVE FUTURES

Trending the trends

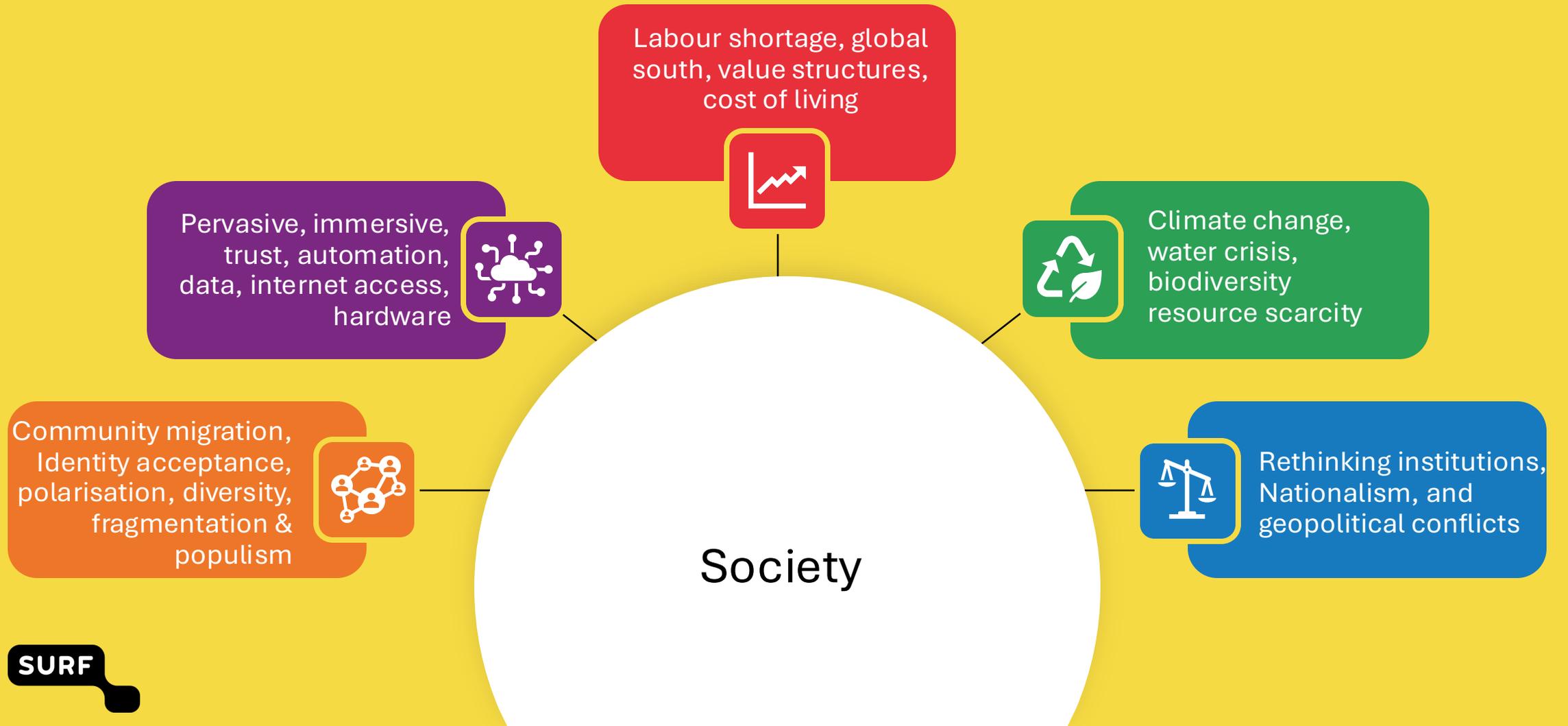
	INTERACTION		INFORMATION		COMPUTATION		BUSINESS OF TECHNOLOGY		CYBER AND TRUST	CORE MODERNIZATION
2025	Spatial computing takes center stage		What's next for AI?		Hardware is eating the world		IT, amplified		The new math	The intelligent core
2024	Interfaces in new places		Genie out of the bottle		Smarter, not harder		From DevOps to DevEx		Defending reality	Core workout
2023	Through the glass		Opening up to AI		Above the clouds		Flexibility, the best ability		In us we trust	Connect and extend
2022			Data sharing made easy		Blockchain: Ready for business	Cloud goes vertical	DEI tech: Tools for equity	The tech stack goes physical	Cyber AI	IT, disrupt thyself
2021	Rebooting the digital workplace	Bespoke for billions	Machine data revolution	ML Ops: Industrialized AI			Strategy, engineered	Supply unchained	Zero trust	Core revival
2020	Human experience platforms		Digital twins				Finance and the future of IT	Architecture awakens	Ethical technology and trust	

| 'a' bigger picture

Contextual drivers



Contextual drivers

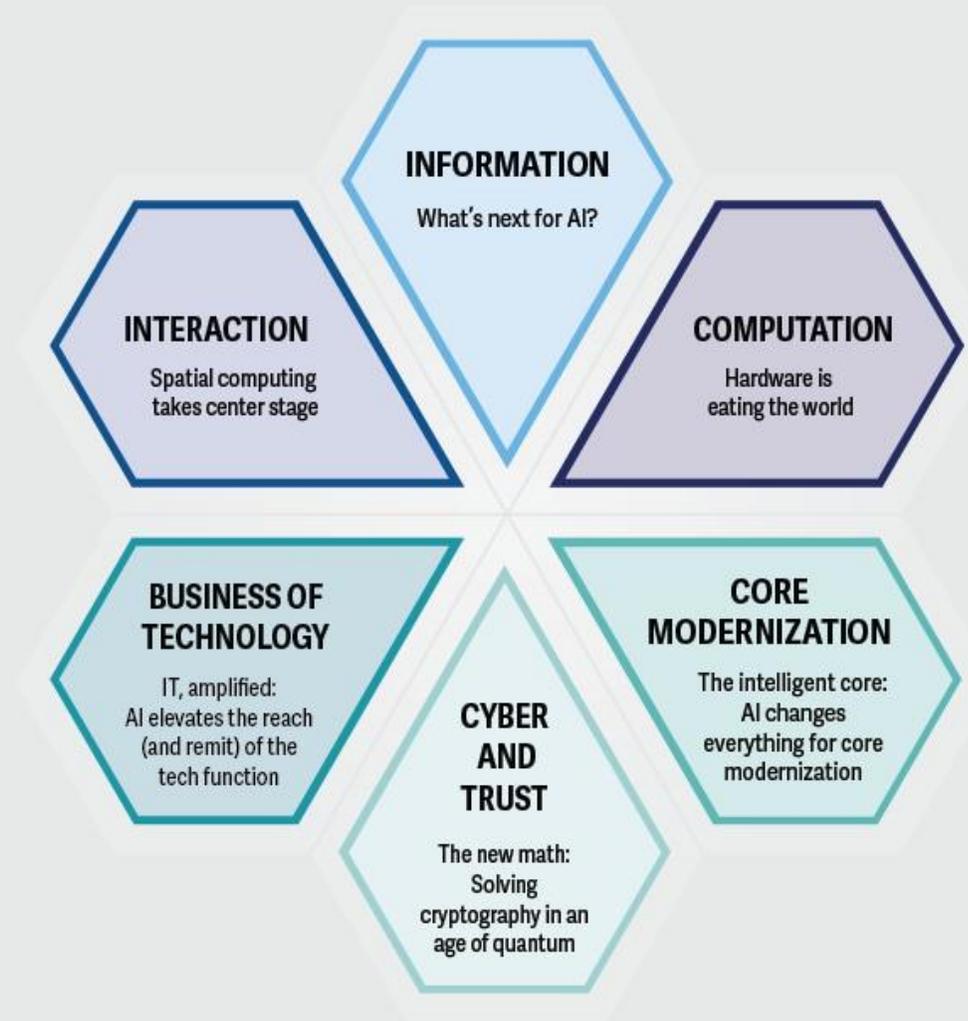


Six macro forces of Information Technology



Figure 1

Six macro forces of information technology

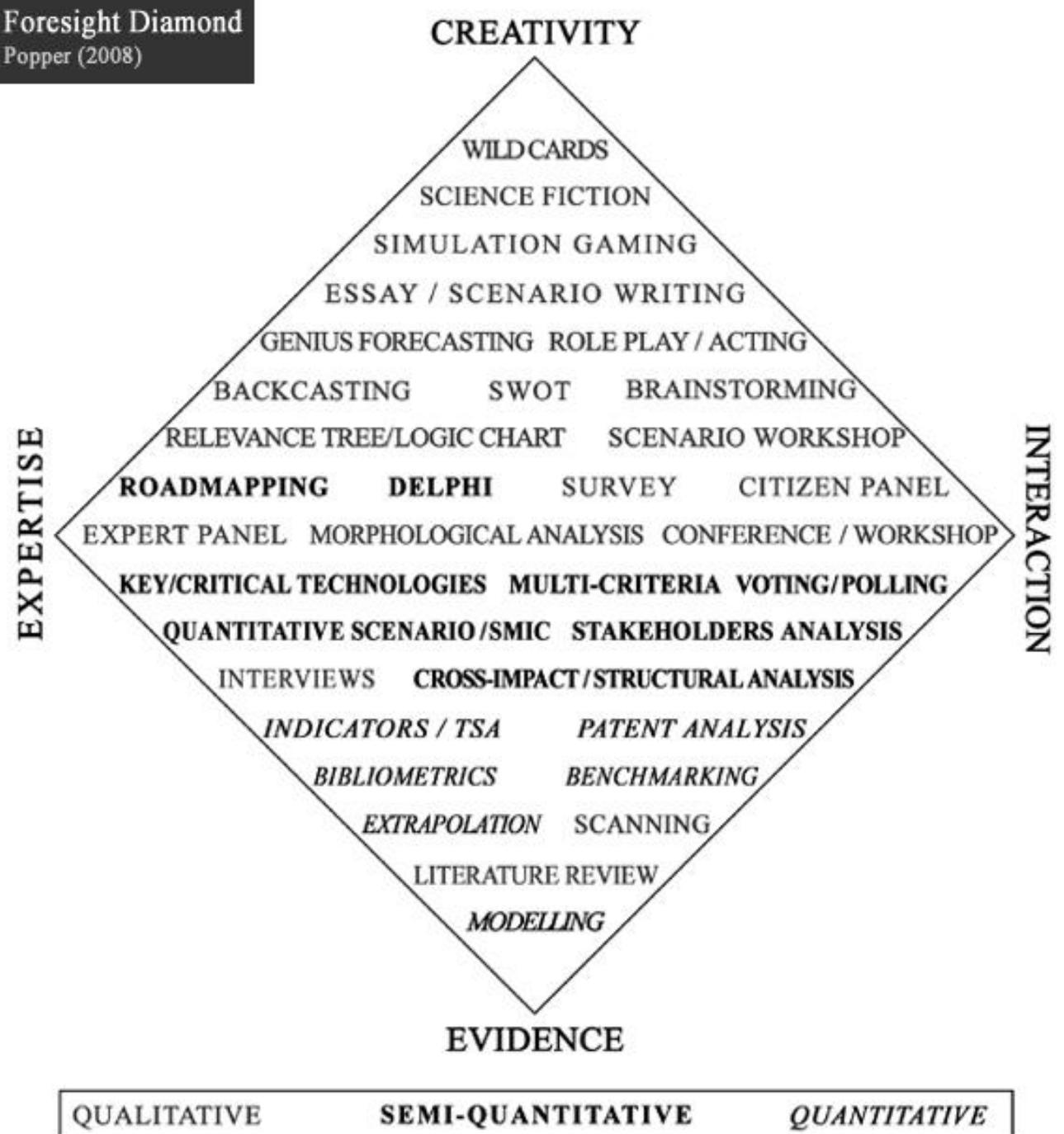


Tools and techniques

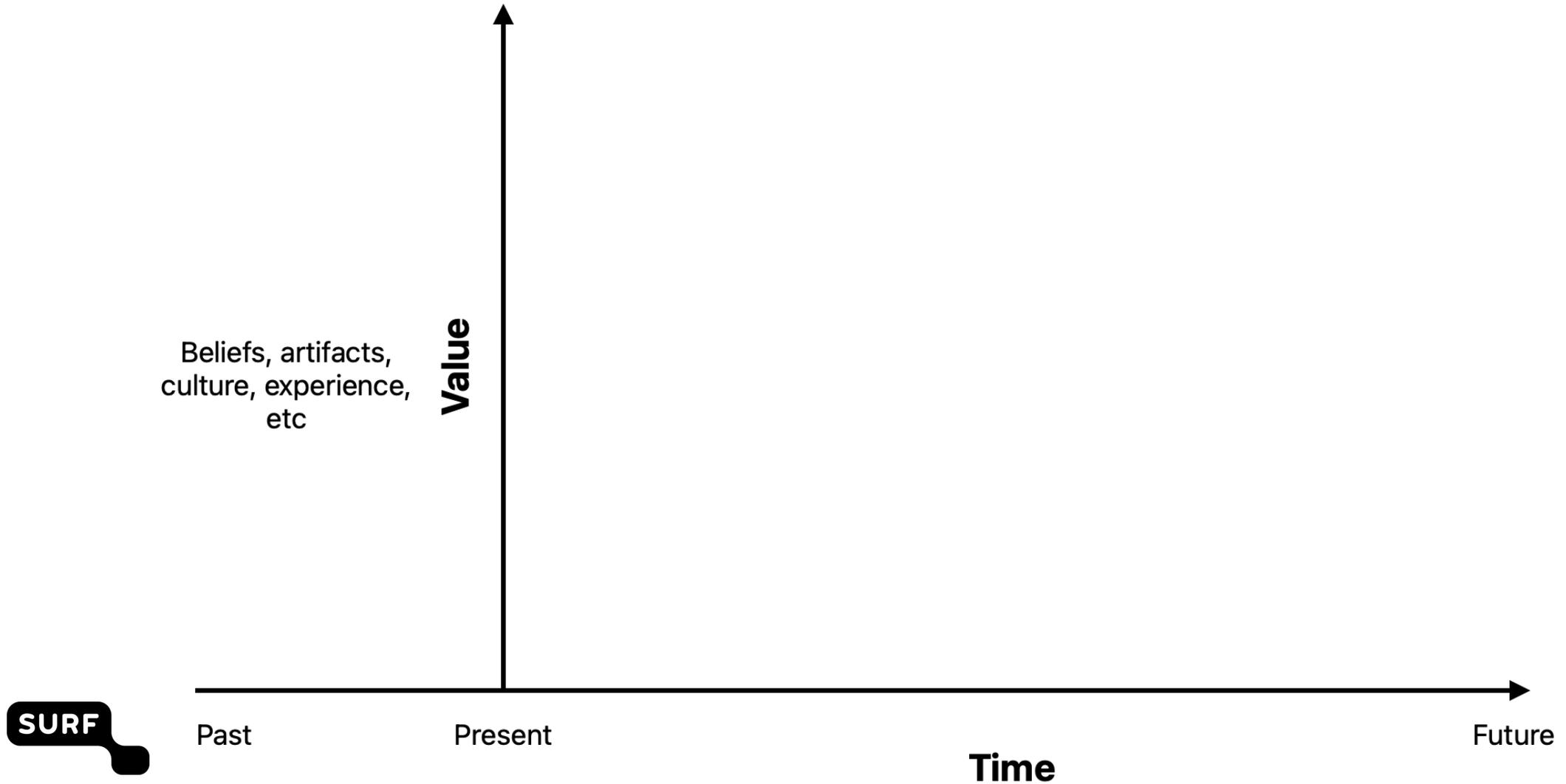
> 50 tools and techniques

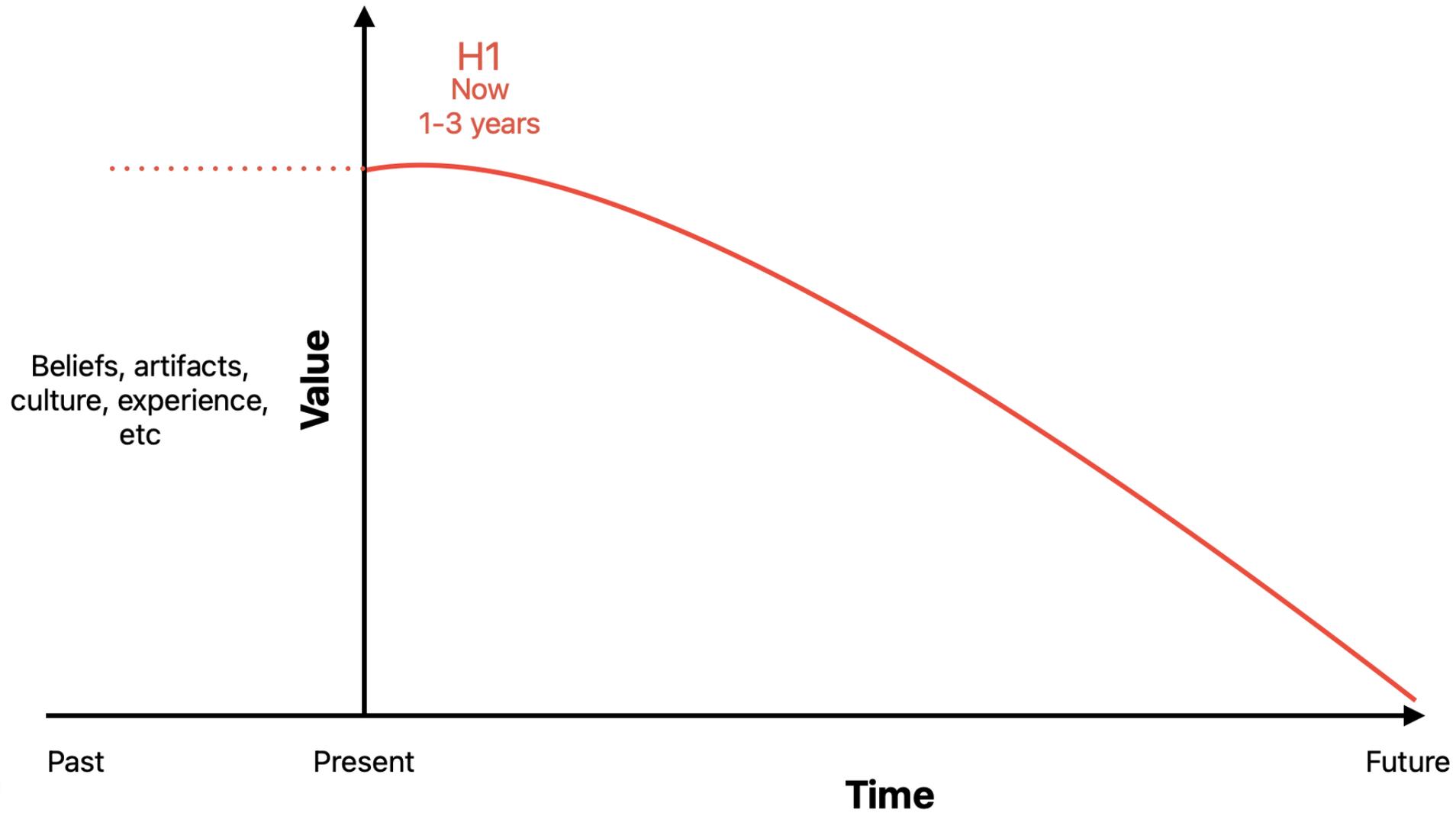
Quantitative and qualitative research

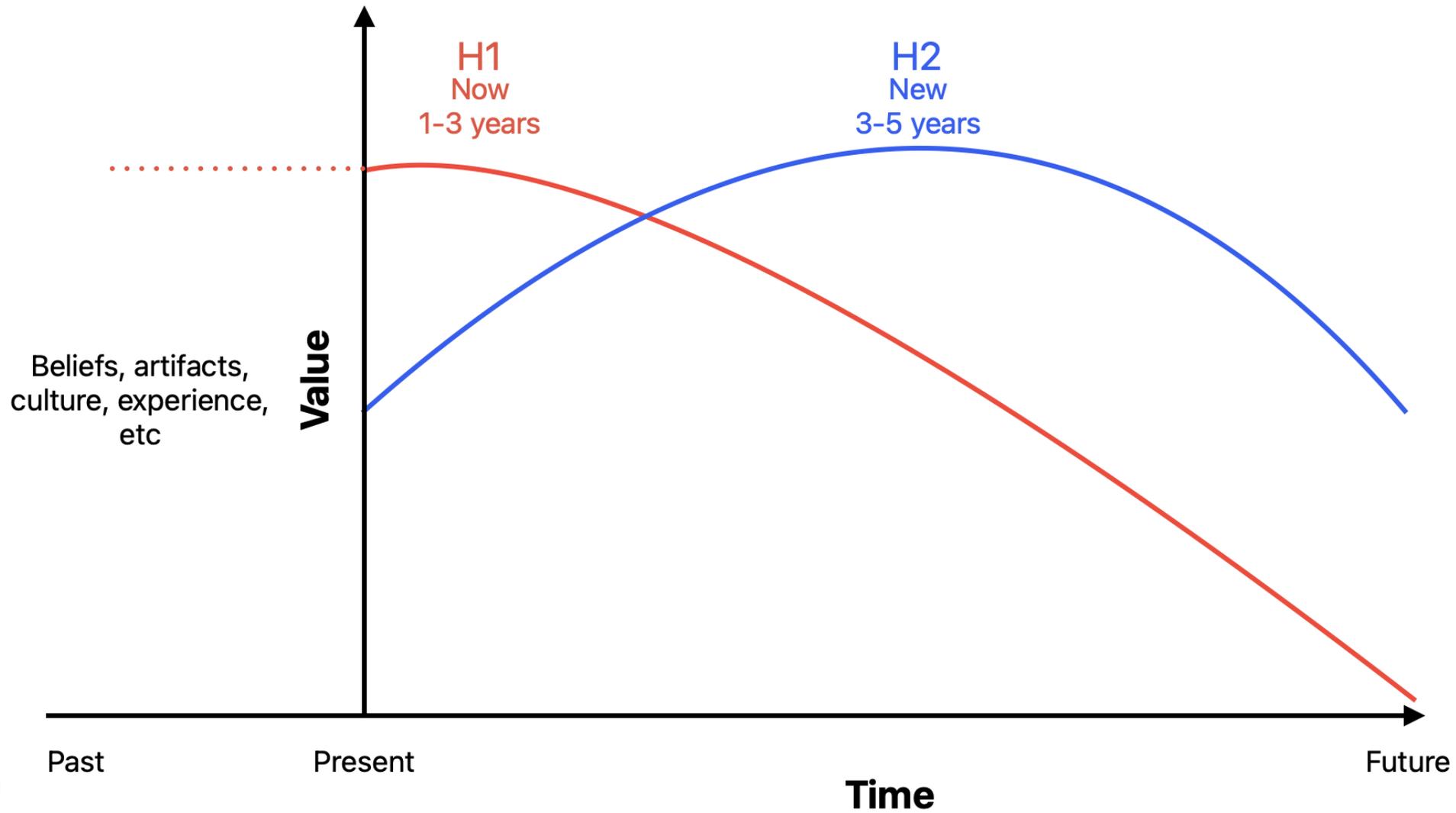
Popper, R. (2008) Foresight Methodology, in Georghiou, L., Cassingena, J., Keenan, M., Miles, I. and Popper, R., The Handbook of Technology Foresight: Concepts and Practice, Edward Elgar, Cheltenham, pp. 44-88.

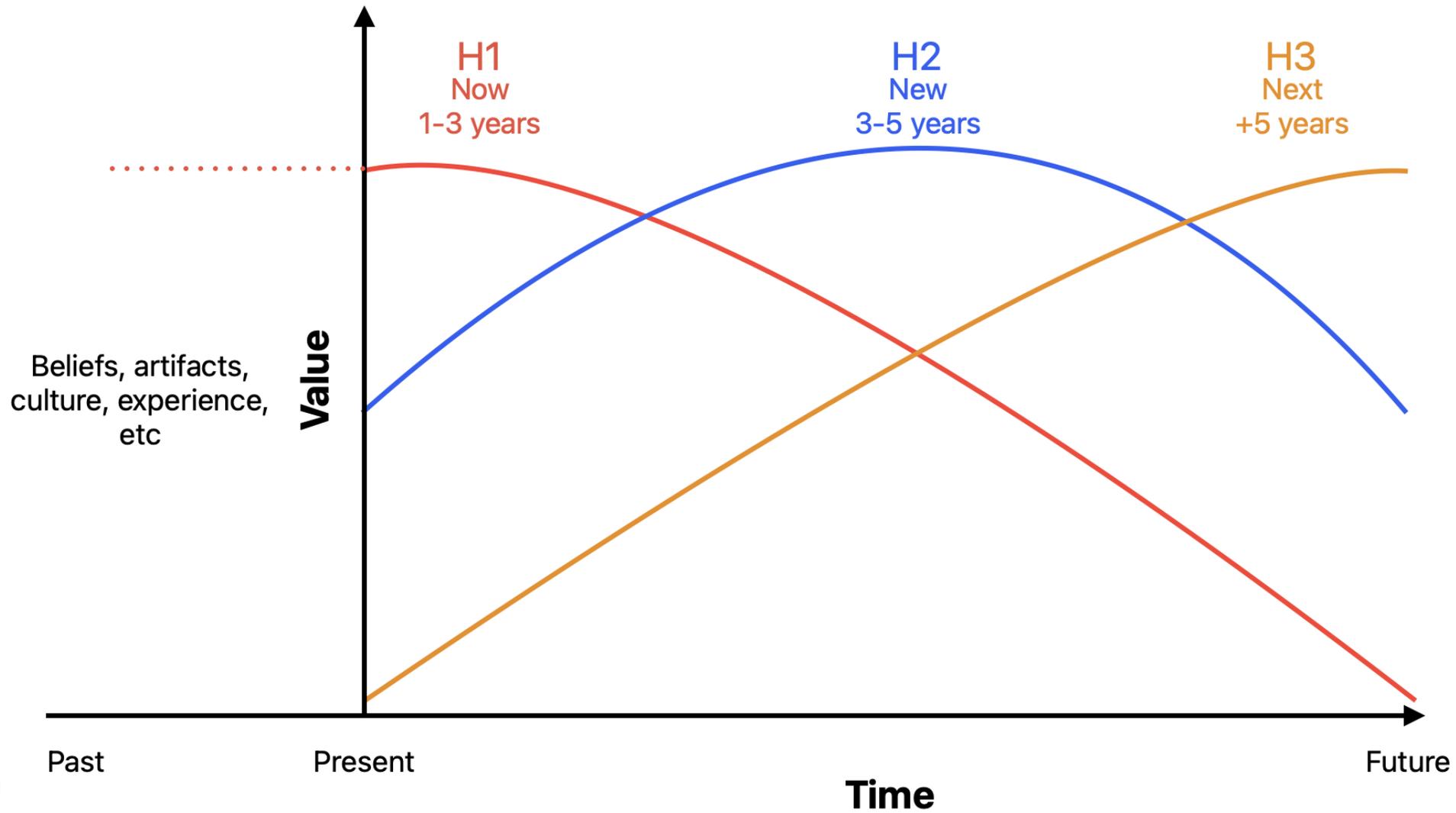


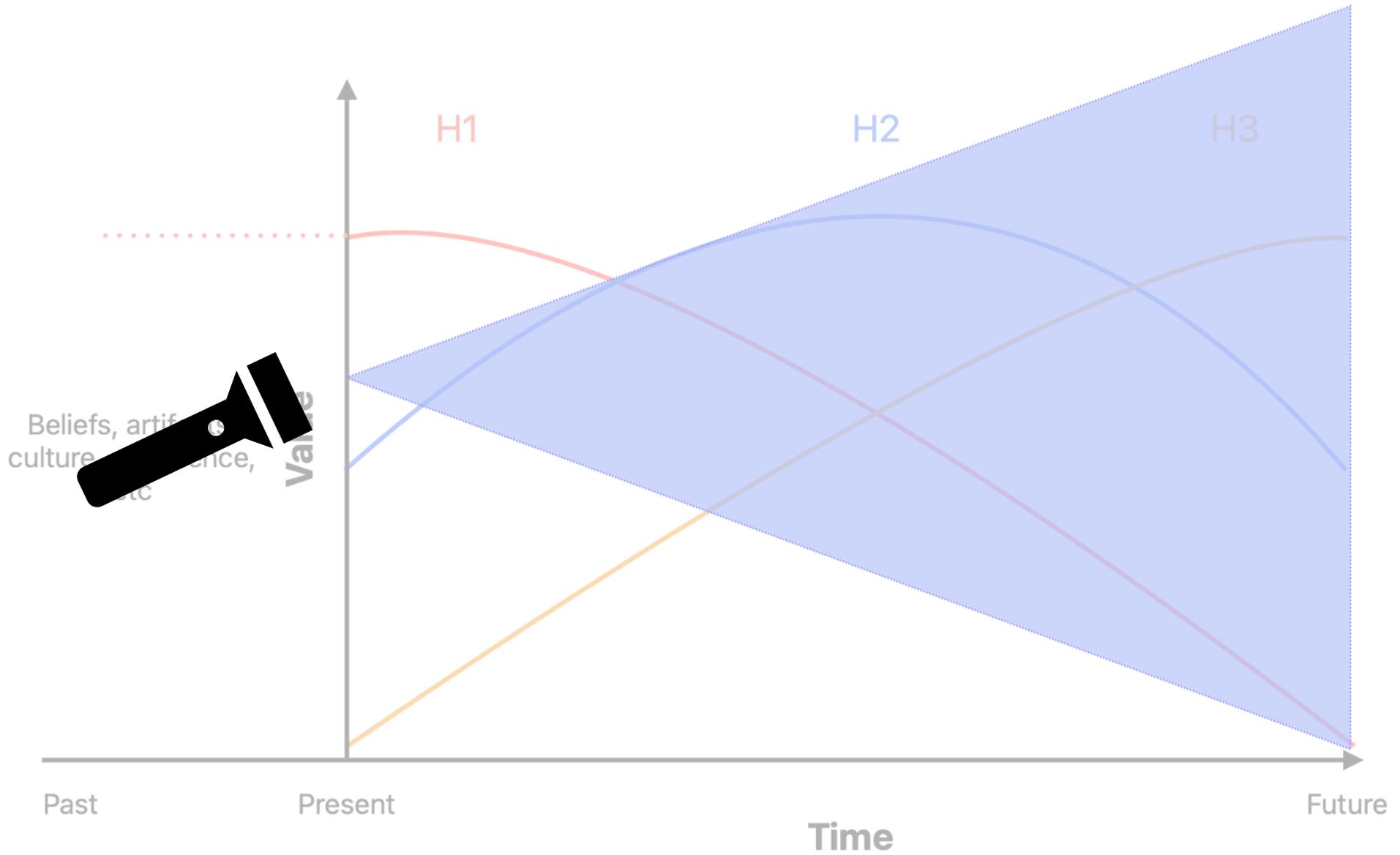
| Three horizons



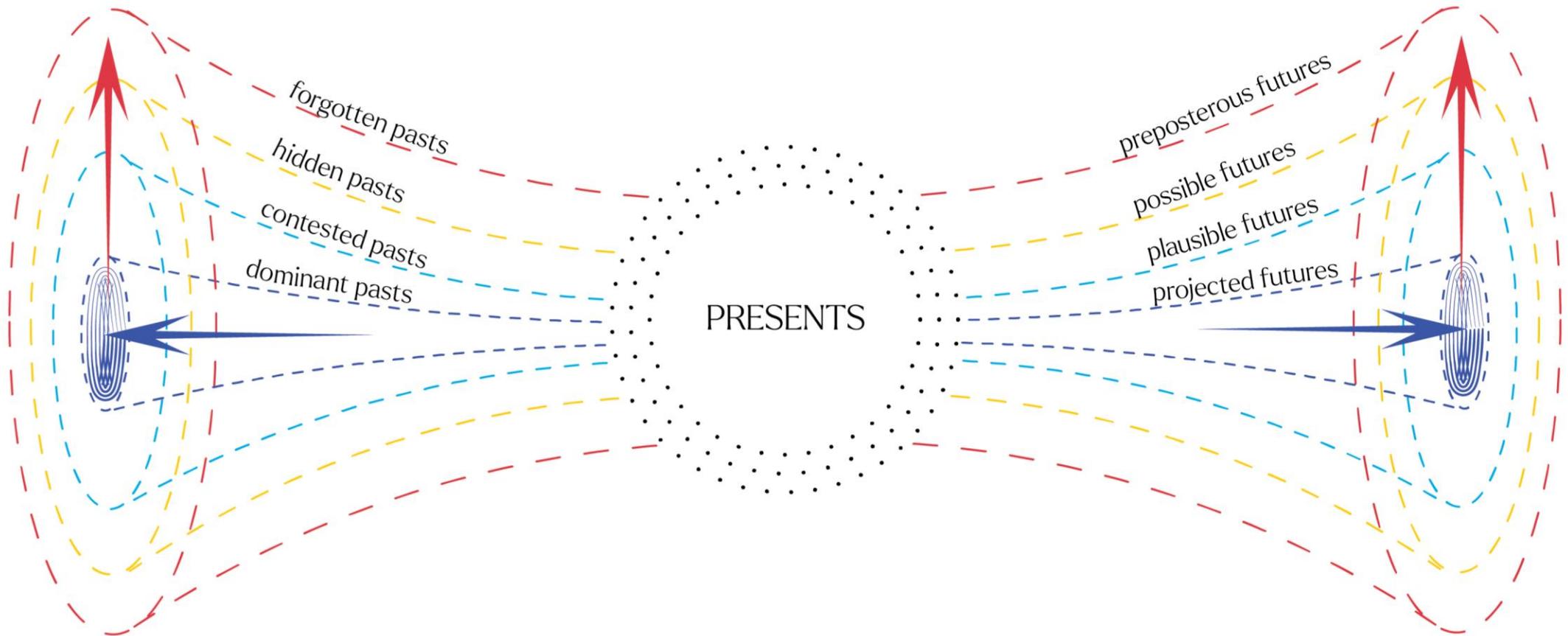








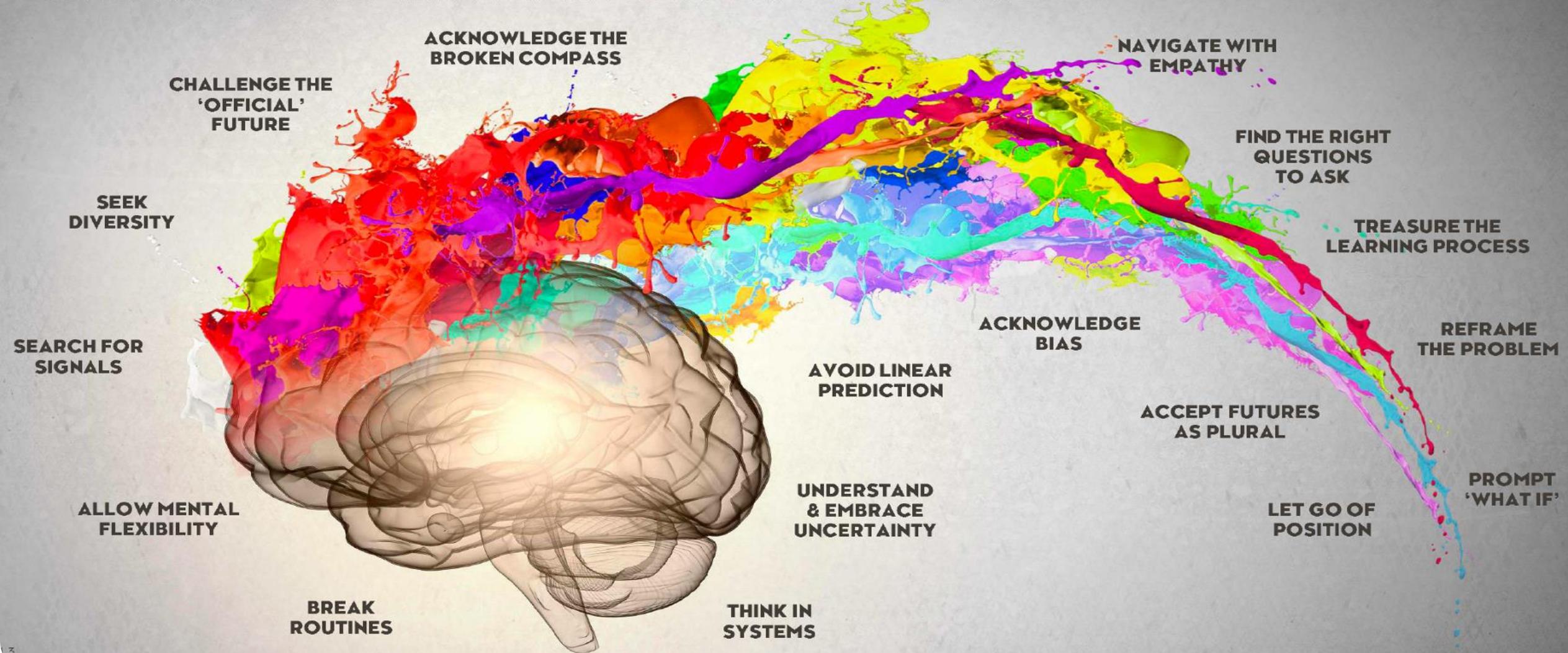
| Past(s)– Present(s) – Future(s)

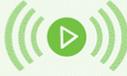




CHECKLIST: How to enable better futures thinking

DEVELOPING A FUTURES-READY MINDSET TO BECOME A GOOD FUTURIST



	 Boomers Born 1946–1964	 Gen X Born 1965–1979	 Millennial Born ~1980–1996	 Gen Z Born ~1997–2010	 Gen Alpha Born ~2011–2025
Age Turning in 2024	60 to 78	45 to 59	28 to 44	14 to 27	13 or younger
Key Emerging Technologies	 TV	 Personal Computers, Console Video Games, Internet	 Smart Phones, 1 st Generation Social Media <i>(Facebook, Twitter, YouTube),</i> Streaming	 Mobile Apps, 2 nd Generation Social Media <i>(Snapchat, TikTok, etc.),</i> Virtual Reality	 Artificial Intelligence
Communication	 Telephone	 Email	 AIM <i>(AOL Instant Messenger)</i> Text Messages	 Image- and Video-Based Communication <i>(Snapchat, Video Chat)</i>	 Video Chat Messenger Kids
Video	 TV	 VCR	 DVDs 24/7 Cable YouTube	 Netflix Short-Form Content <i>(YouTube, TikTok)</i>	 Proliferation of Streaming <i>(Disney+ and all others)</i> YouTube Kids
Music	 Vinyl Records	 Walkman	 iPod	 Spotify, YouTube	 Smart Speakers
Gaming	 Pinball	 Atari, Arcades, Nintendo NES	 Game Boy, PlayStation, Xbox, MMORPGs <i>(like World of Warcraft)</i>	 Minecraft, Pokémon Go, Nintendo Switch, Fortnite, Mobile Games, E-Sports	 Roblox, Gamification of Education <i>(like Khan Academy Kids)</i>

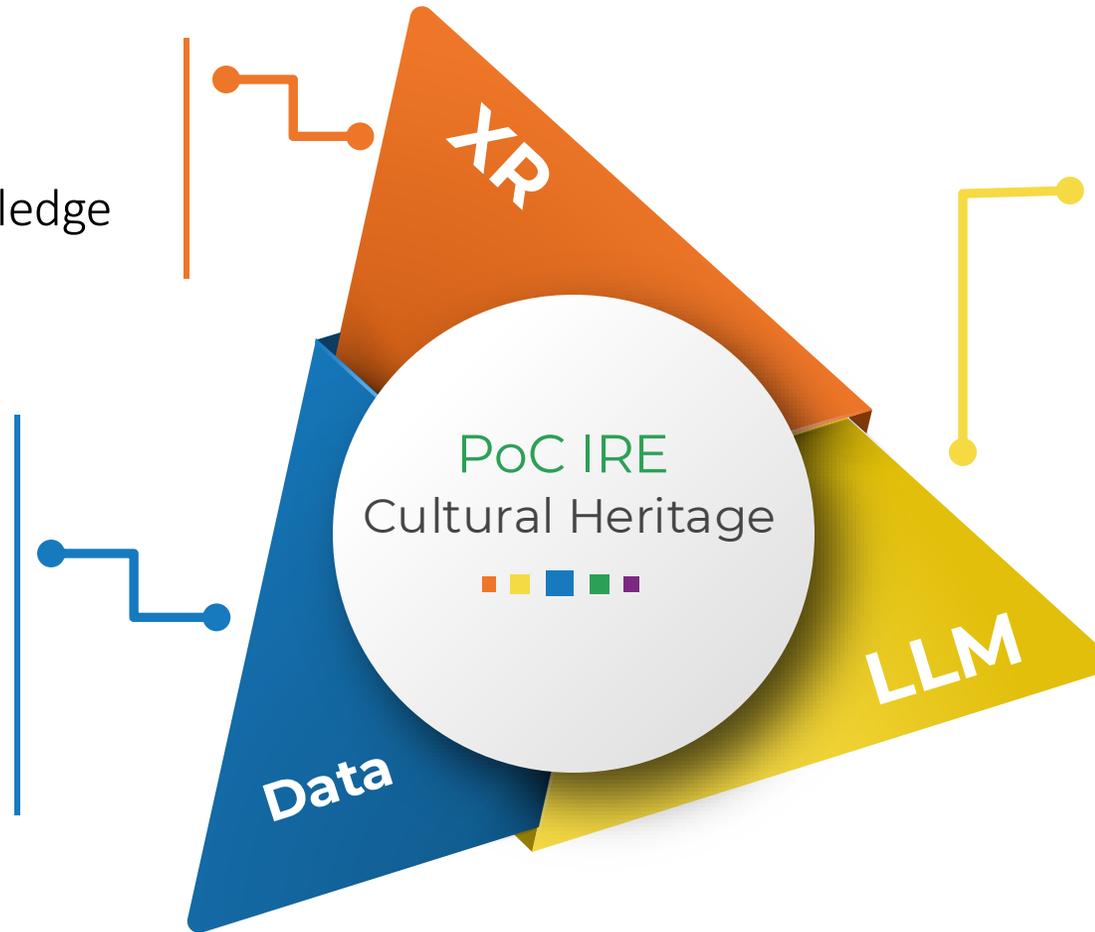


Pak een object

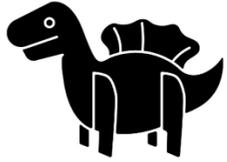
Conceptual plan

3D-cultural-artifacts
See, explore, repeat and
engage without pre-knowledge

Reuse of (meta)data
and (3D) objects with
realtime feedback



Language models suiting
our values and
principles of research
(and education)



Object Database

SURF Research Cloud

- 3D models
- Metadata
- *ID*

1.

Upload objects to XR Application



XR Application

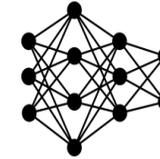
Wireless / stand alone

2.

User sees a 3D object, grabs it, and asks a question about the object

Questioner receives:

- Textual answer in display
- Audible answer
- Visuals



LLM connectie

AI Hub API

3.

- A. Speech to Text
- B. Make it a prompt
- C. Add the metadata of the 3D object
- D. **Prepare the answer**
- E. Text to Speech
- D. Possibly with visual

4.

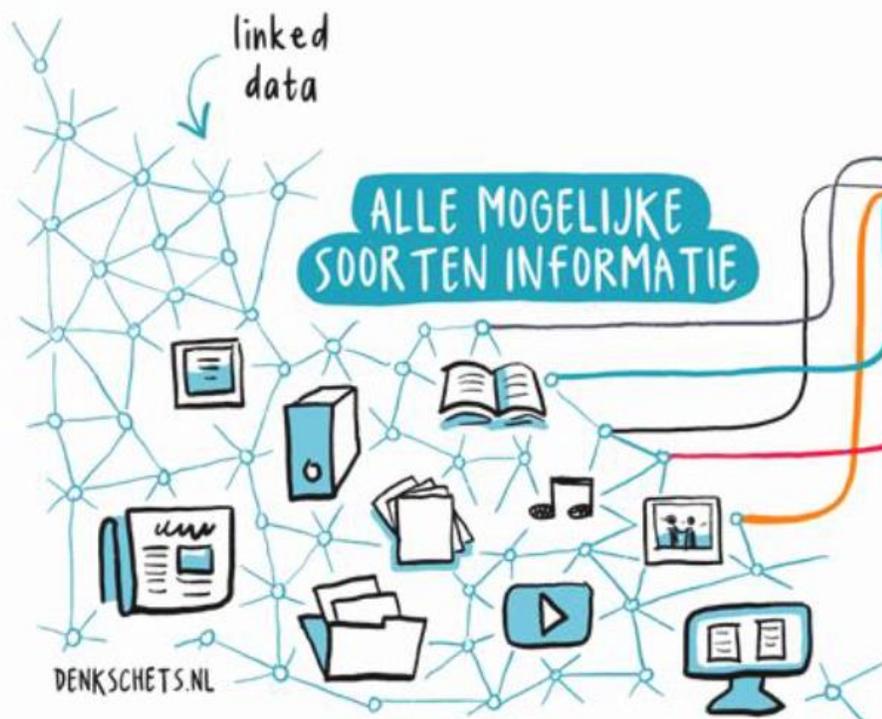
SEND RESULT BACK!!

internet

internet

HET ARCHIEF ALS NUTSVOORZIENING

van centrale naar verdeelstation



DE NUTSVOORZIENING
ALS VERDEELSTATION

STANDAARDEN en
INFRASTRUCTUUR
zijn er al

verschillende manieren
van toegang, zoals
via websites en API's



DE GEBRUIKER
STAAT CENTRAAL

Toegang tot duurzaam toegankelijke informatie
(Archiefwet, WOO, particulier archief, ...)



Het Centraal Archief Bijzondere Rechtspleging (CABR)

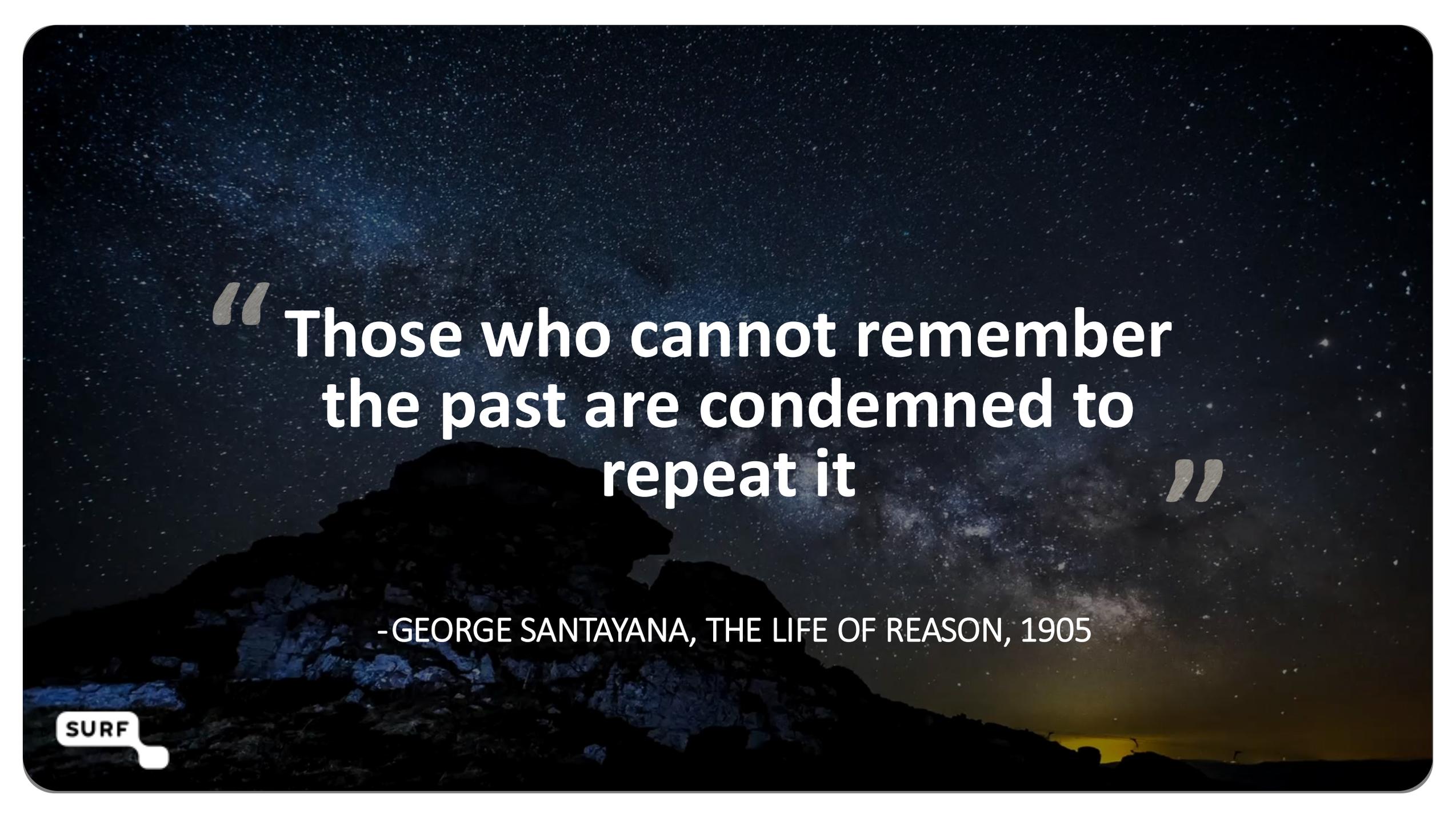
- Het grootste archief over de Tweede Wereldoorlog van Nederland
- 3,8 km dossiers
- juridische documenten, getuigenverklaringen, persoonlijke brieven en verhalen van slachtoffers
- +/- 425.000 personen(!)



Nederlandse VR-documentaire over Joodse vrouw in WO II in wereldpremière in Cannes

NOS, 14 mei 2025





**“ Those who cannot remember
the past are condemned to
repeat it ”**

-GEORGE SANTAYANA, THE LIFE OF REASON, 1905