Blend people and the digital together

Luis Borges Gouveia

21st April, 2023

Digital Society Institute

KU Leuven, Belgium

Blend people and the digital together

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Meeting talk, 21st april , 2023
Digital Society Institute
KU Leuven, Belgium

- The World is on **change**
- No one can envision the **impact** of the combined number of technologies that enter now their **maturity** (being AI one of them)
- Current **institutions** are no longer able to cope with such transformations as is and net to be (in an adapt or die sequence)
- How to consider the individual, the group, the community and the society towards such impacts within a sustainable **society**
- There are **choices** to be made and **values** to be prioritized

Peter F. Drucker

(1909 – 2005)

“Know thy time”

Conhece o teu tempo

(in Drucker, P. com Maciariello, J. (2005) Diário de Drucker, Editora Actual)

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From a world of opportunities

chance · contingency · fortuity · freedom

To a world of challenges

objection · protest · test · threat · claiming · confrontation · dare · defiance

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Possibilities, context building & serendipity

From a world of opportunities

chance · contingency · fortuity · freedom

More possibilities, increase complexity & conflict

To a world of challenges

objection · protest · test · threat · claiming · confrontation · dare · defiance

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From a world of opportunities

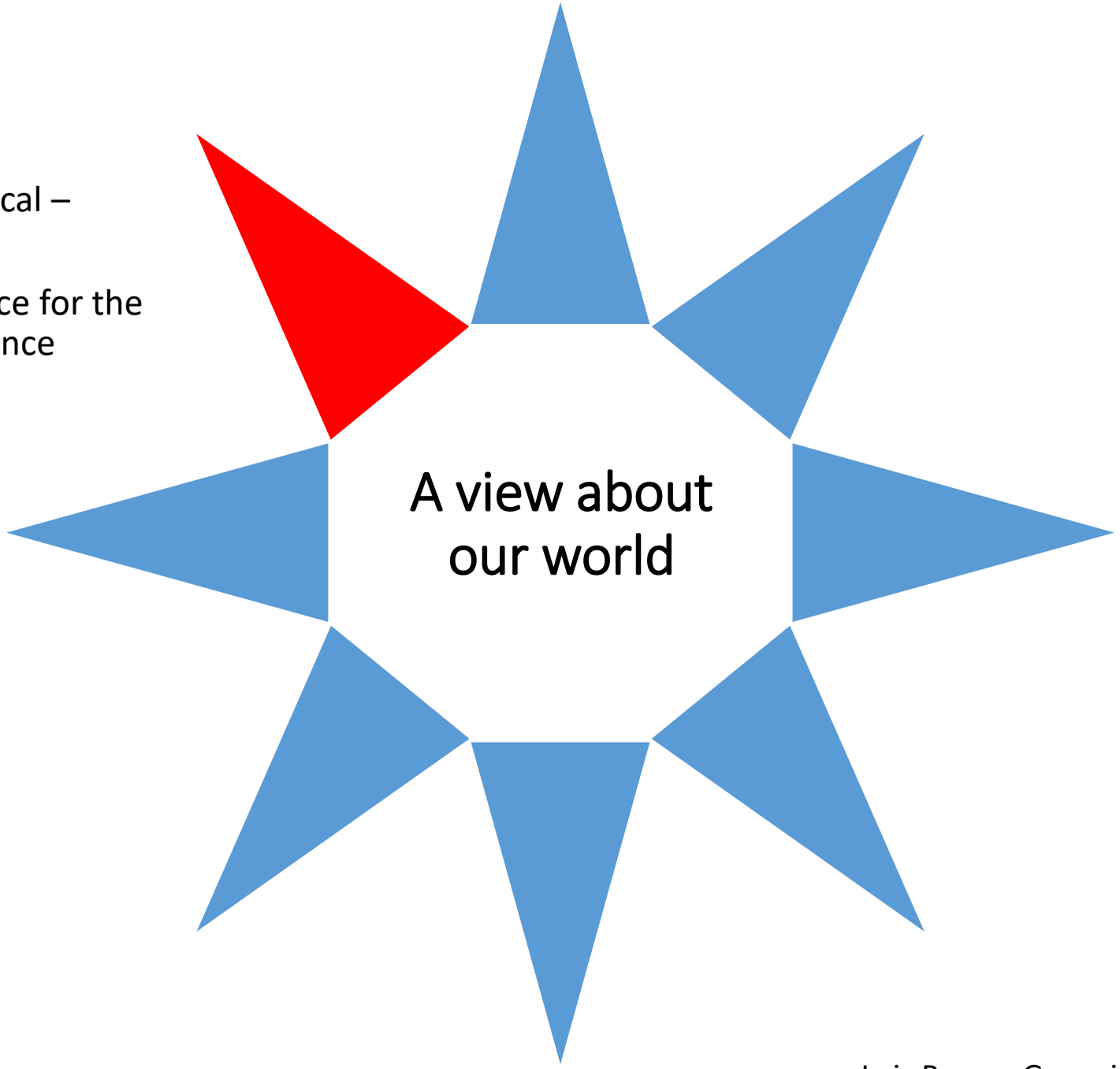
Back to 2006

Gouveia, L. (2006). Gestão da Informação: oportunidade ou necessidade. Apresentação no IESF. Vila Nova de Gaia, 12 de Abril. *http://homepage.ufp.pt/lmbg/com/iesf_gi120406.pdf*

globalization

Think global, act local – glocal

The lost of relevance for the geographic distance



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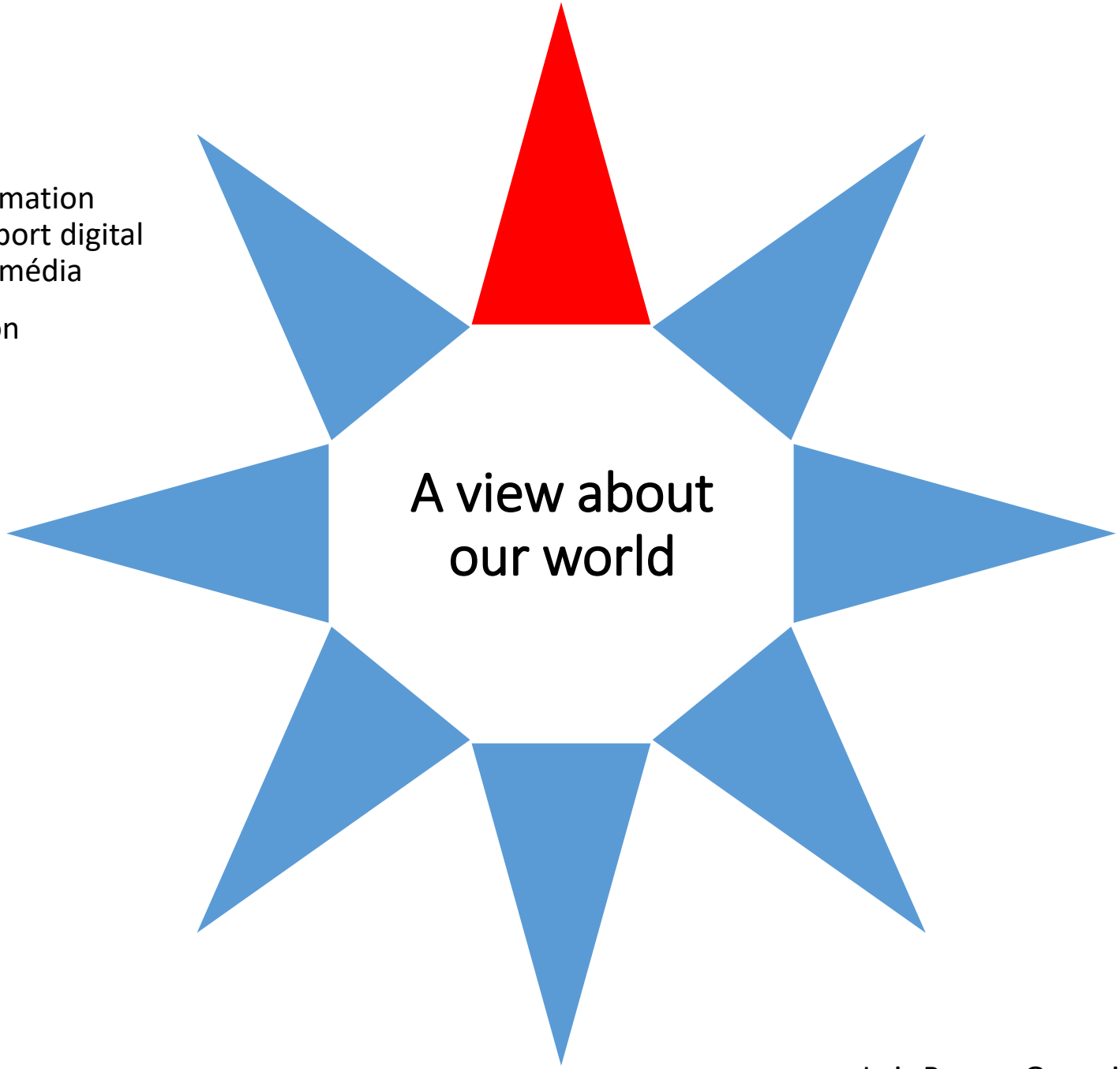
digitalization

Intensive use of information technology to support digital information, multimédia

For easing information exploitation



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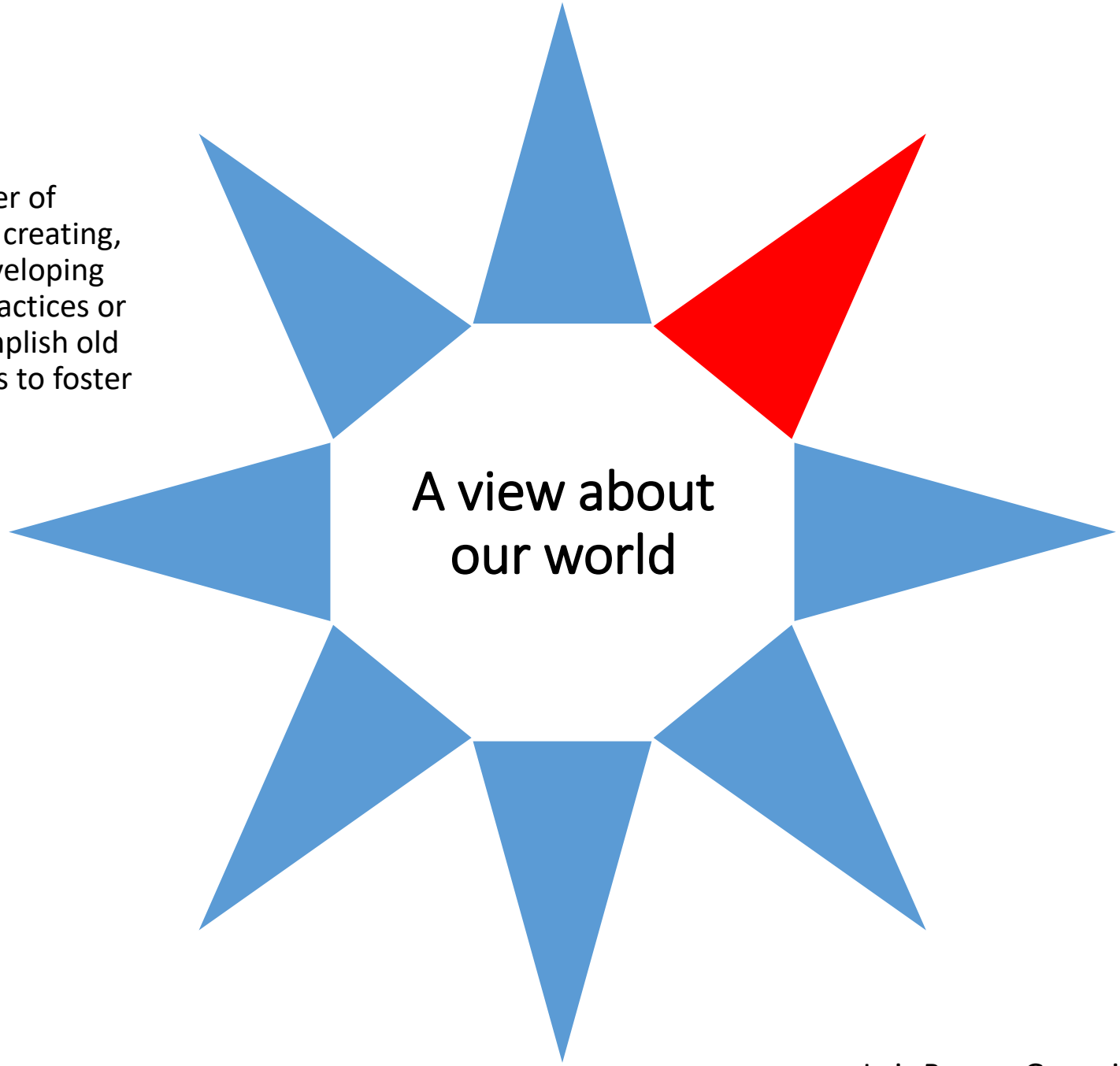
inovation

Activator and modifier of human history, by creating, proposing and developing new processes, practices or products to accomplish old things in new ways to foster human activity



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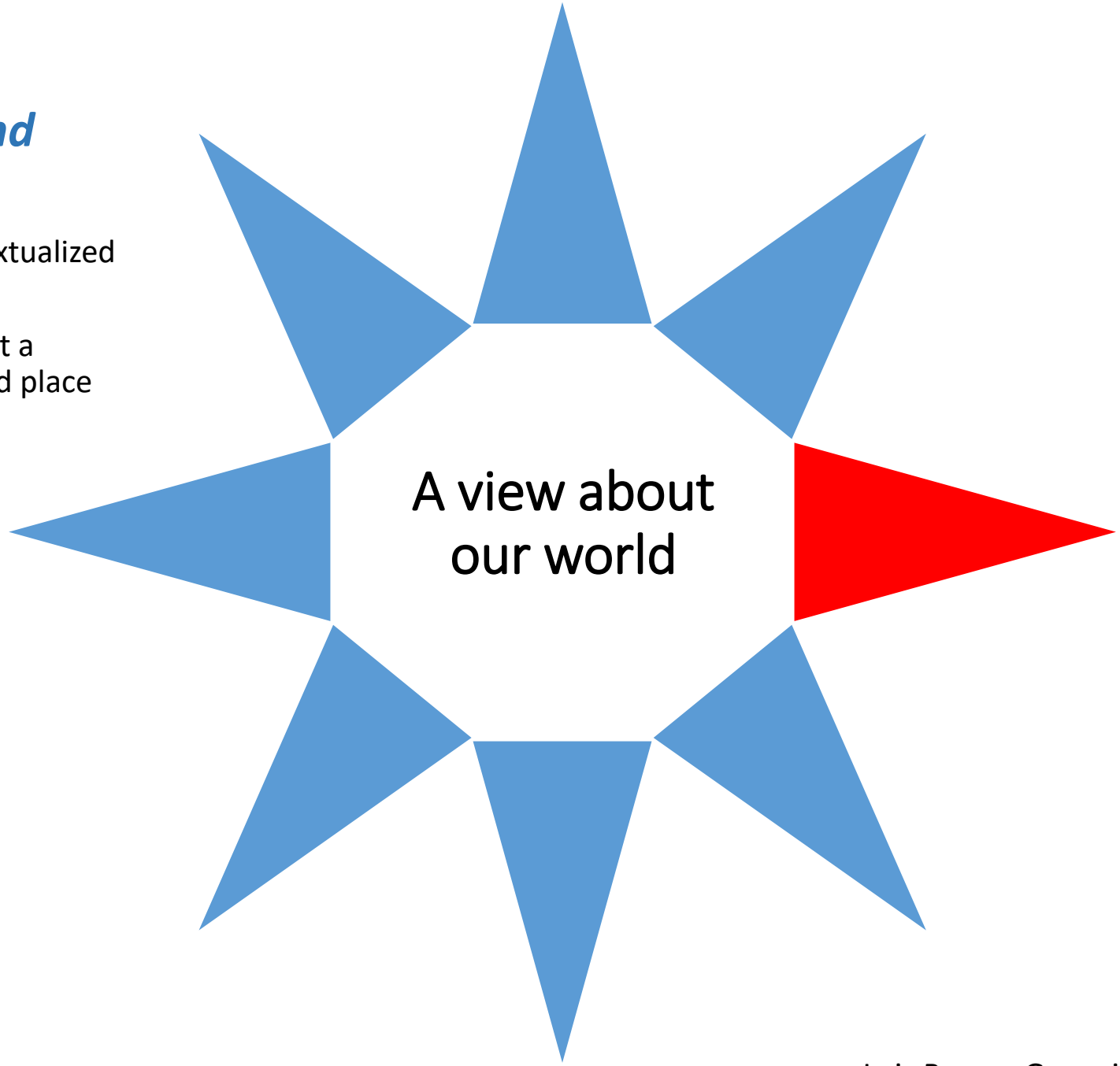
knowledge and culture

Organized and contextualized information

A particular society at a particular time and place



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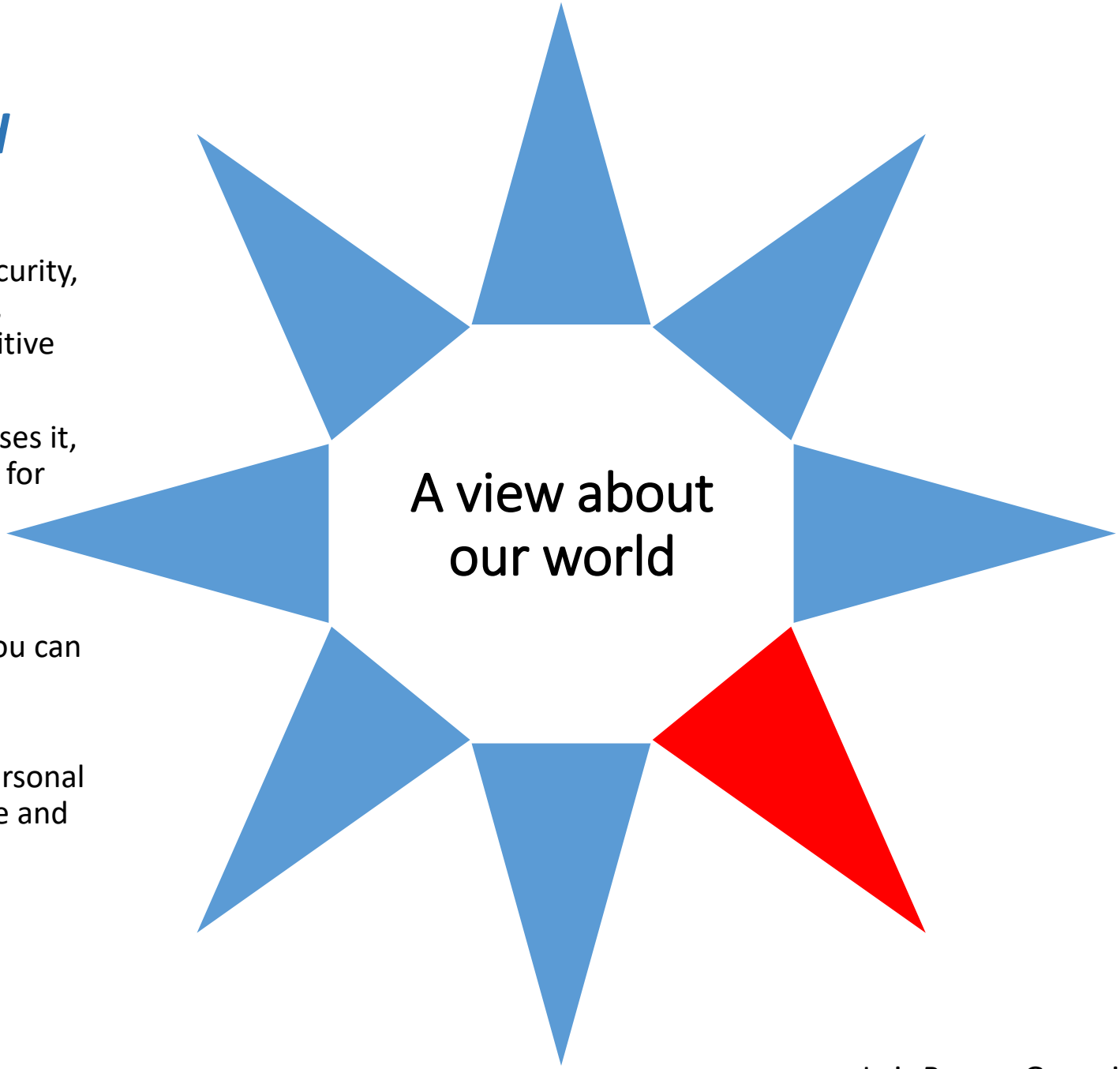
security and privacy

Passive and active security, secrecy assurance, protection of sensitive information

Who uses it, how it uses it, and what it uses it for

Who owns it, what you can do

Rights, freedoms and guarantees and personal information, image and video



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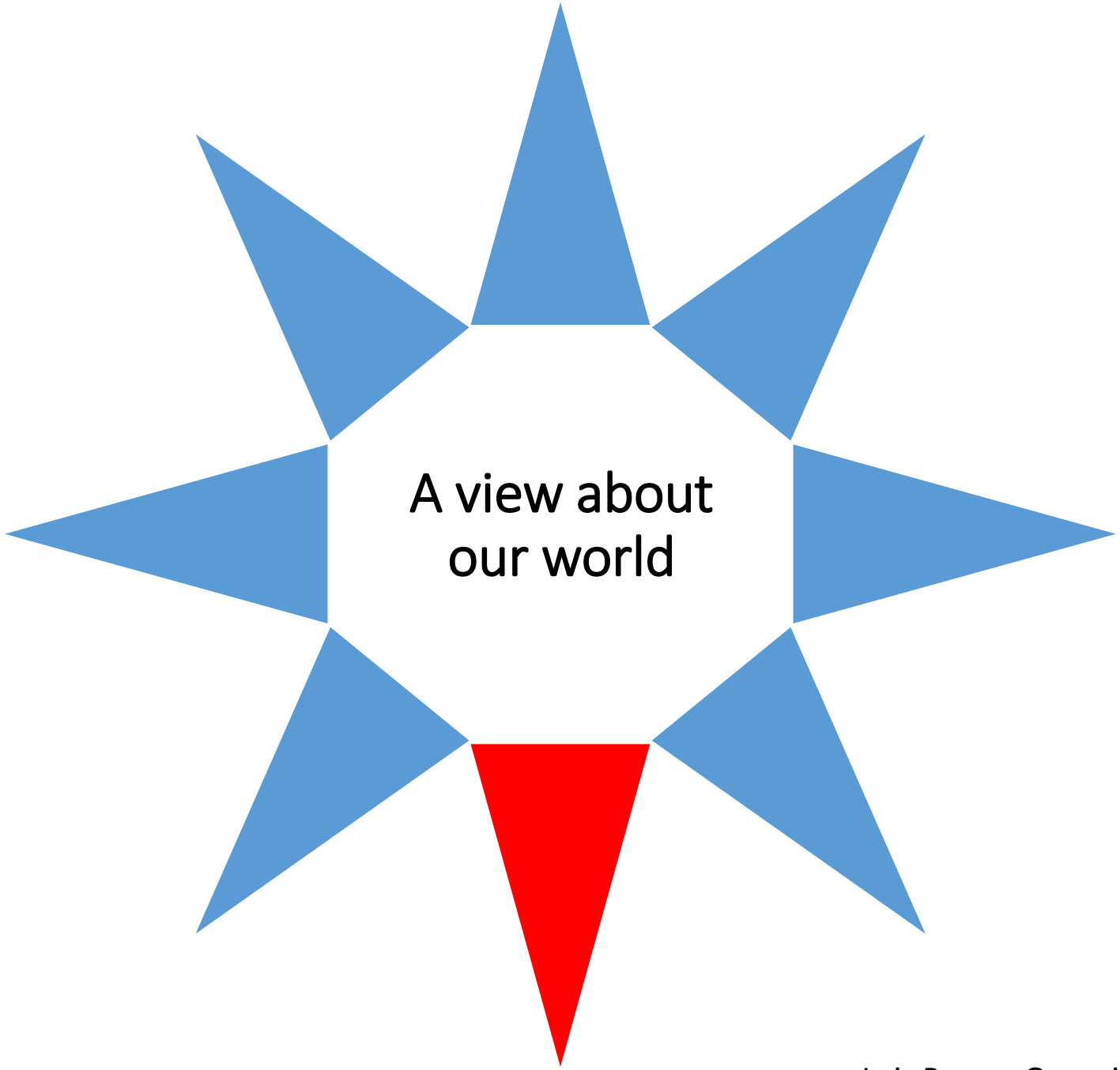
environment

!



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energy

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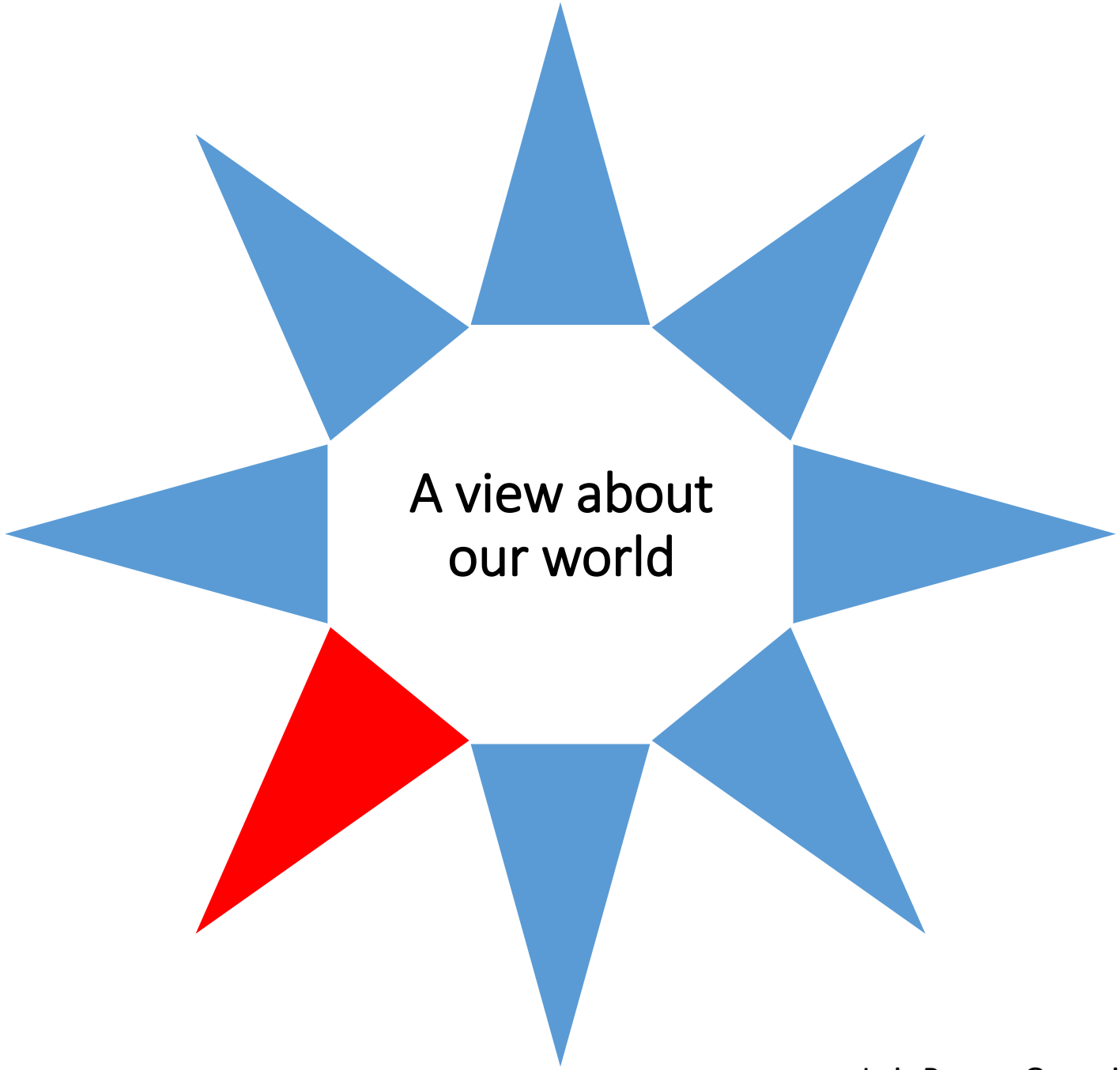

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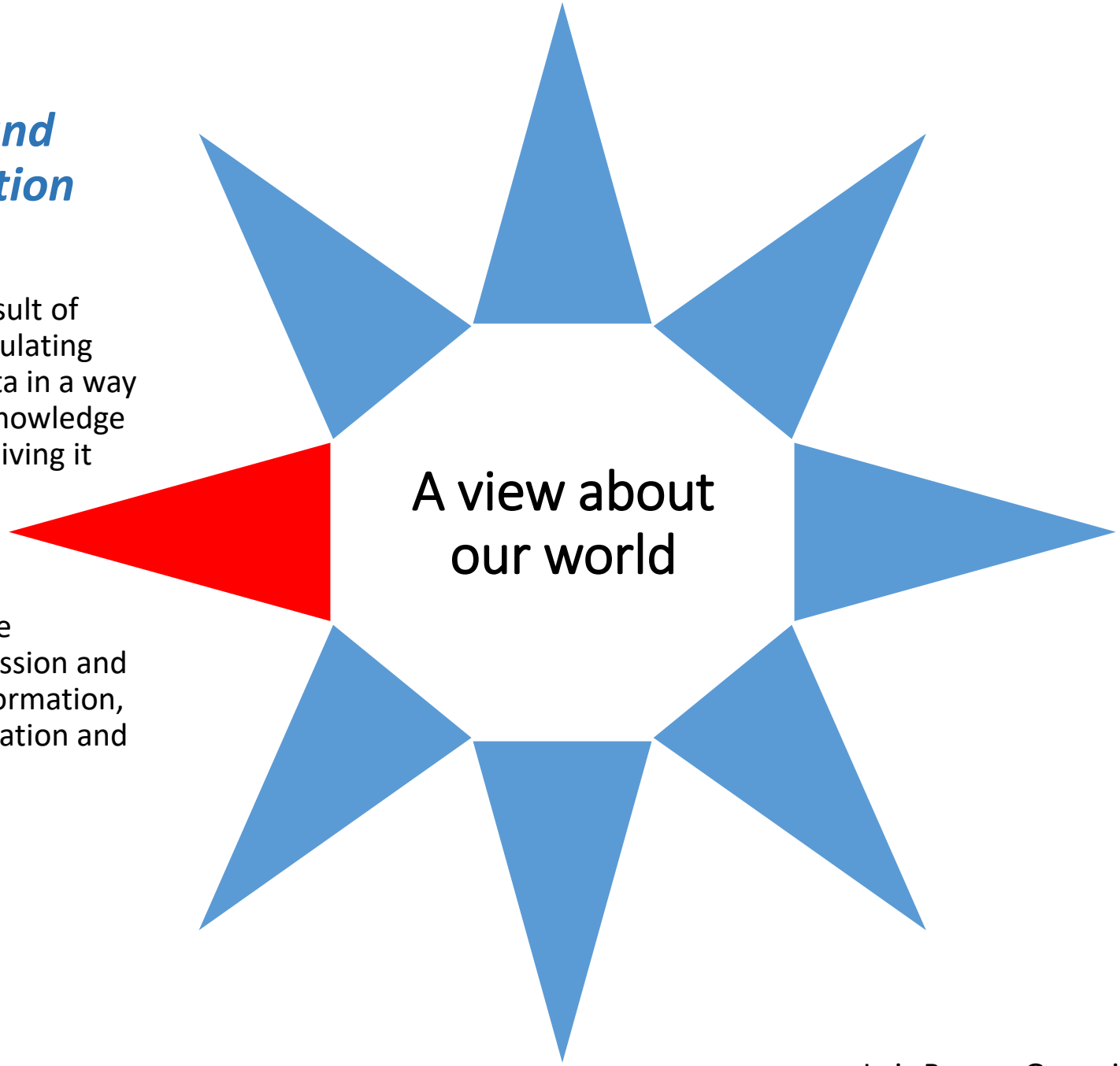
information and communication

Information is the result of processing, manipulating and organizing data in a way that adds to the knowledge of the person receiving it

Communication is the exchange, transmission and conveyance of information, the flow of information and ideas



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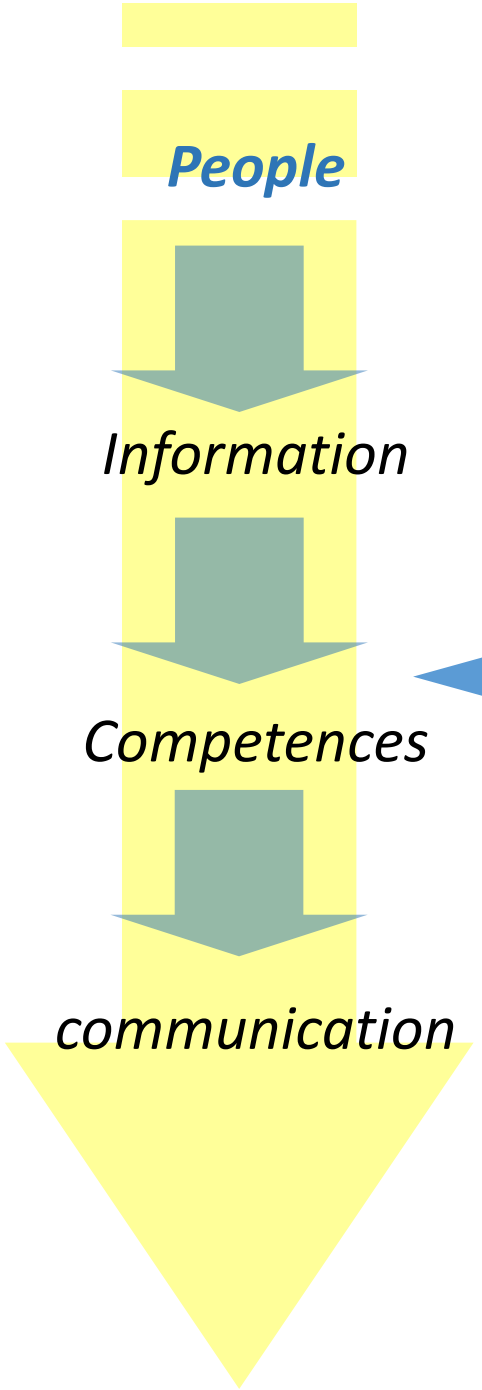

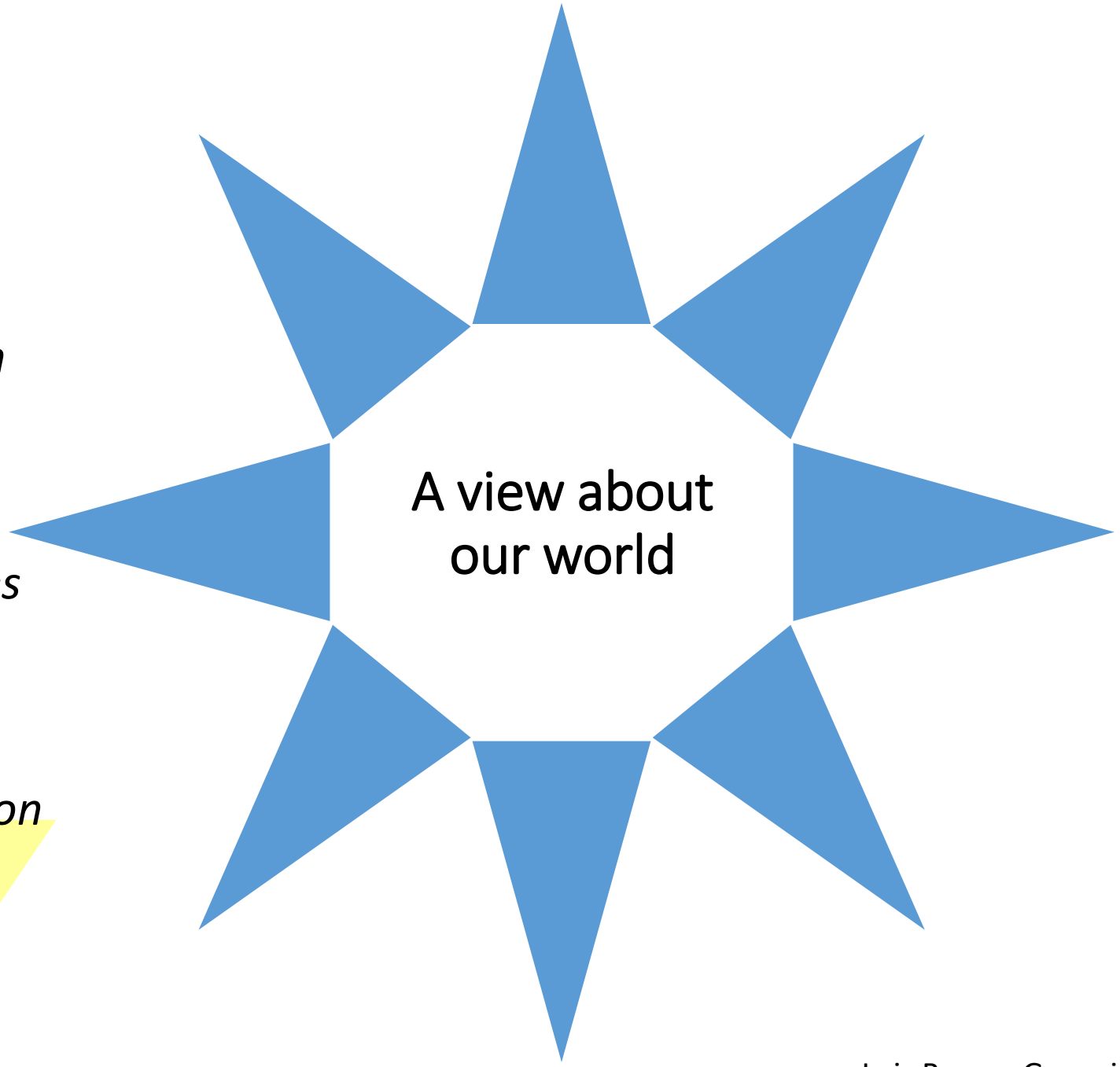

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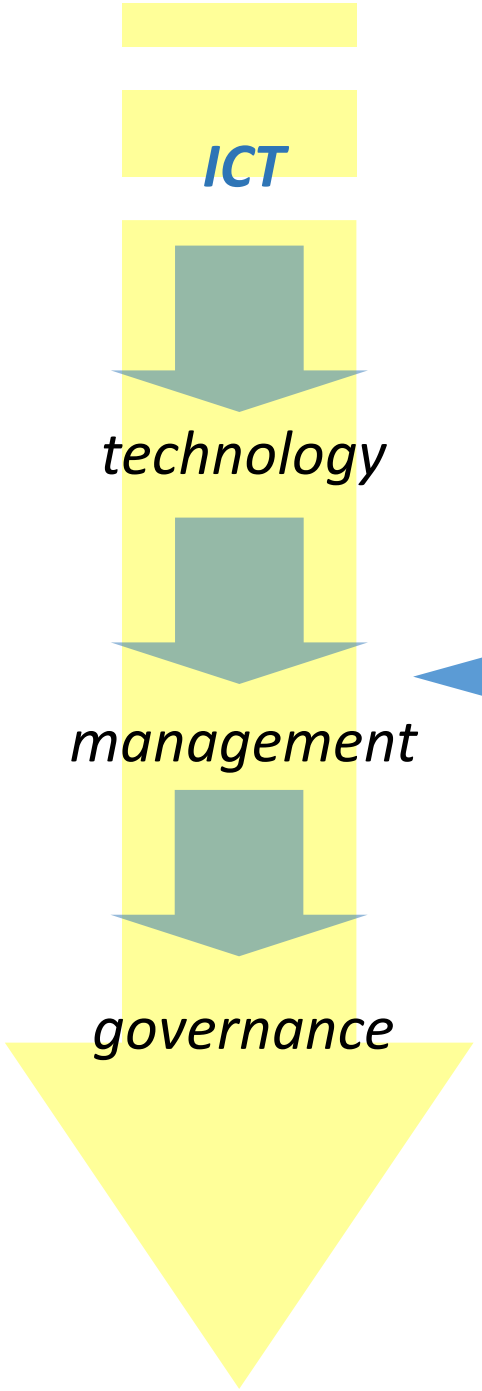

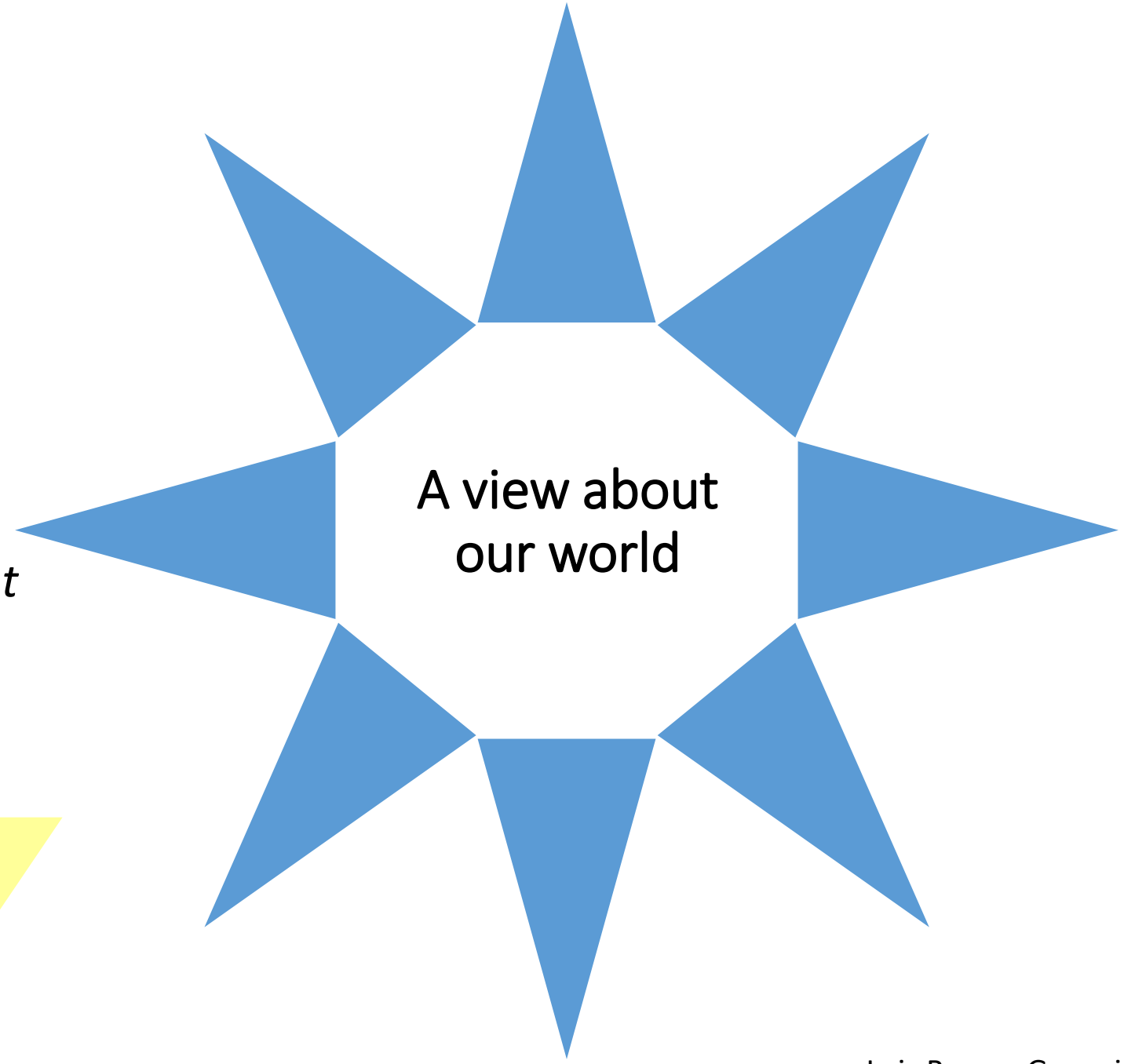

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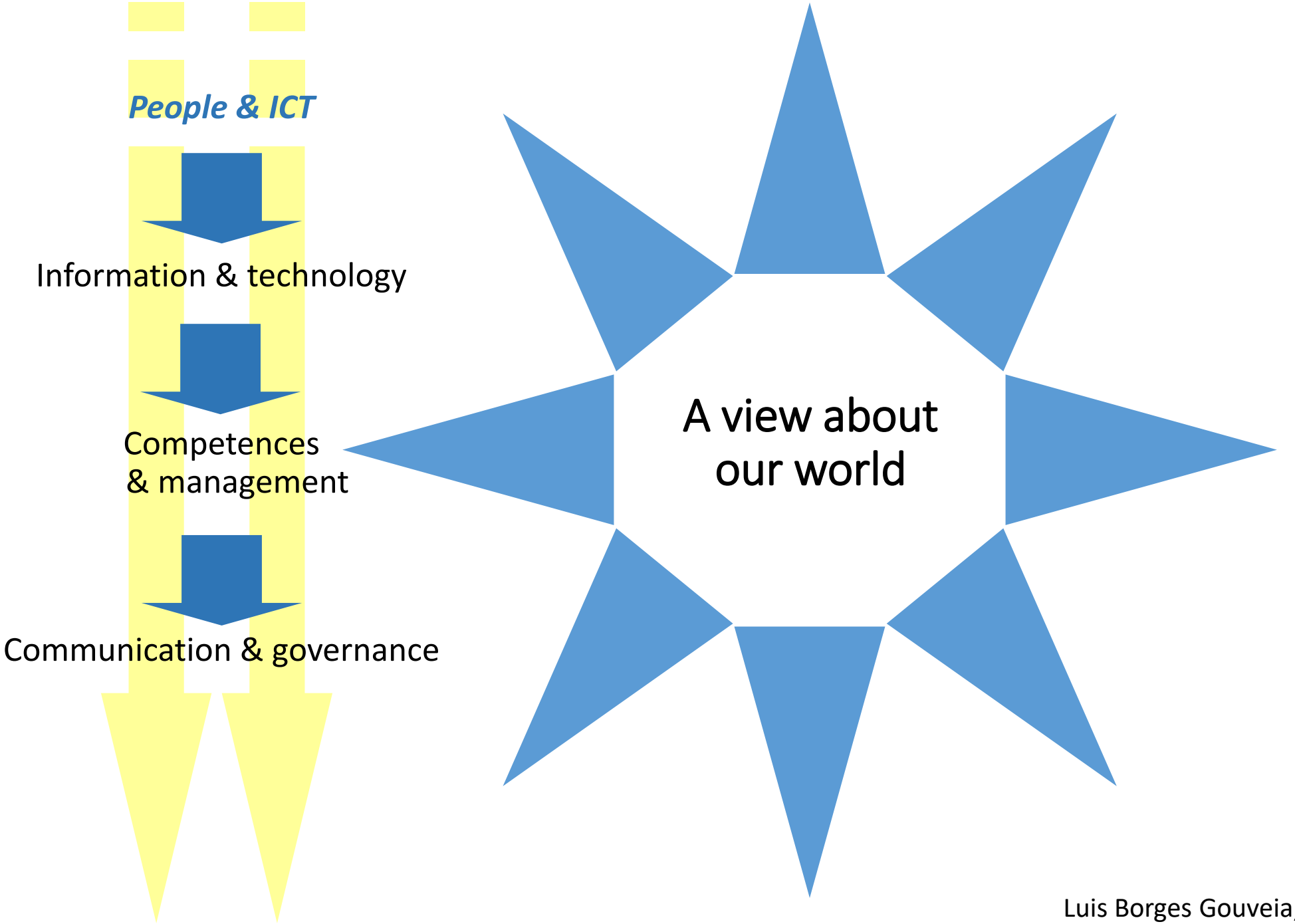

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To a world of challenges

Currently

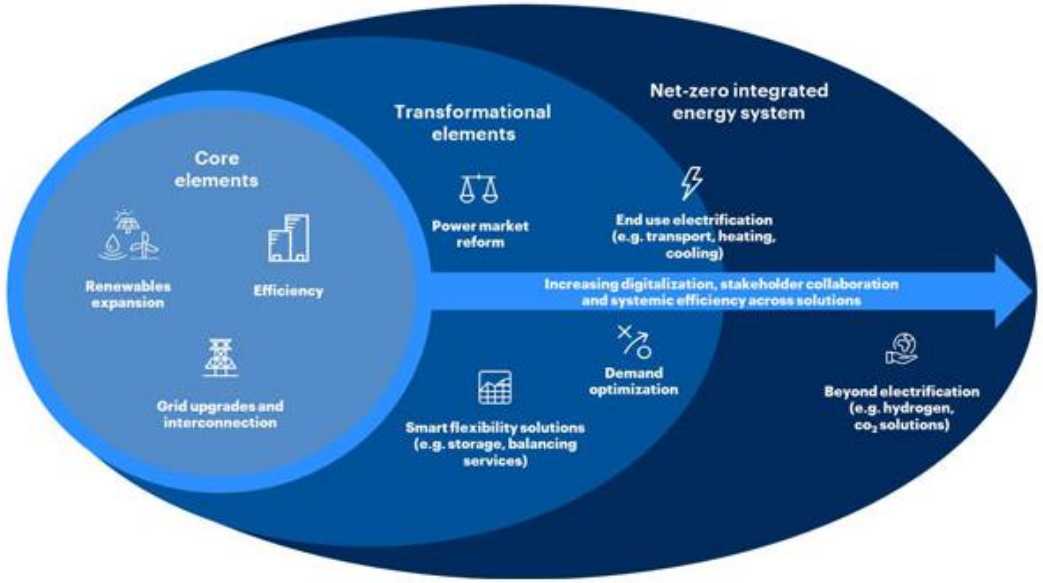
Gouveia, L. (2021). A vez da educação híbrida: o digital no equilíbrio do presencial e remoto. MAERA – 7 anos de existência, Webinar sobre Educação. 9 de Dezembro.
https://bdigital.ufp.pt/handle/10284/10512

Two forces that are/will shaping our action

Energy transition

A Question of Survival

"*how to change and adapt to the climate and its challenges?*"



Digital transformation

A hope for the human being

"*how can we organize ourselves in order to recover our human dimension?*"

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Digital Culture

Araújo, P. e Gouveia, L. (2020). Cultura Digital, definição e dimensões constitutivas: uma proposta para mapear e diagnosticar as condições de uso do digital nas organizações. In Souza Junior, A. et al. (2020). Diálogos sobre Tecnologia e Direito. Rio de Janeiro: Pembroke Collins. pp 359-378. ISBN 978-65-87489-24-7.

- **Digital**: related to computers and networks, represents the ability to represent and interoperate data, information and knowledge in order to facilitate their processing, storage and communication
- **Culture**: customs, social behavior of a group of people or society. It may include art and other manifestations of human collective ability and intellect
- **Digital Culture**: the creation of habits and practices of digital exploration in the representation of data, information and knowledge and also in the way we interact in society
  - Provides an **invasive and global culture**

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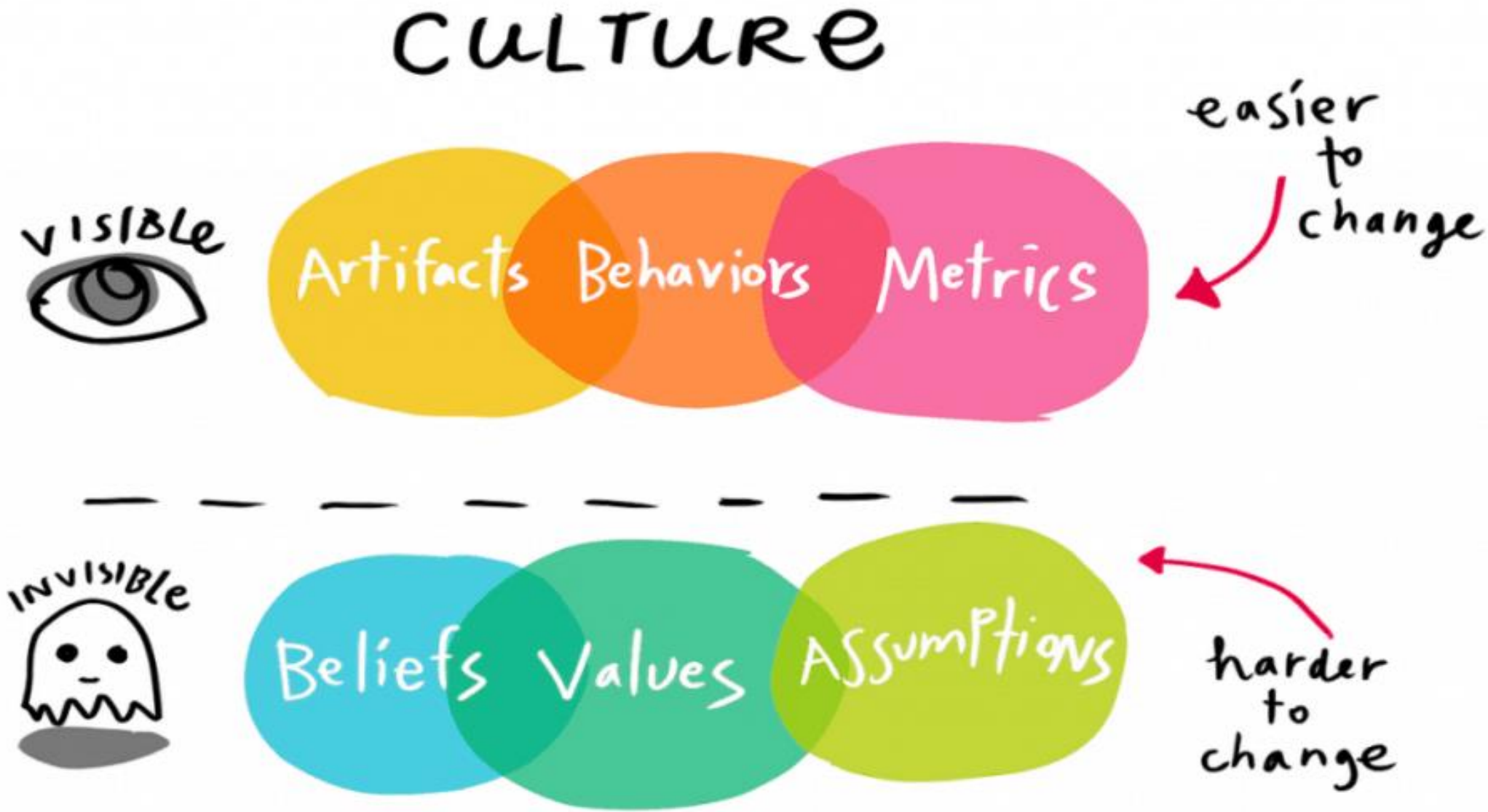

https://www.whaii.com/blog/your-corporate-culture-will-define-the-future-of-your-company/

Digital Transformation

Gouveia, L. (2017). Transformação Digital: Desafios e Implicações na Perspectiva da Informação. In Moreira, F.; Oliveira, M.; Gonçalves, R. e Costa, C. (2017). Transformação Digital: oportunidades e ameaças para uma competitividade mais inteligente. 1ª edição, dezembro. Capítulo 2, pp 5-28. Faro: Silabas e Desafios. ISBN: 978-989-8842-28-2.

- Changes associated with the application of digital technology in all aspects of **human activity**
- Digital transformation can be considered the third phase of **digital adoption**:
  - Digital Skills
  - Digital literacy
  - Digital transformation
- The **use and exploitation of the digital** enables new kinds of innovation and creativity that leverage traditional methods of human activity
  - The **workforce** shifts from analog to digital
- Requires a **new approach** by the organization (and those responsible for the information)
  - From the survival mode state, to a state of **value production**

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Digital transformation – steps

- **Digitation**
  (**turn the analogue**, digital)
- **Digitalization**
  (**create** digital)
- **Digital Transformation**
  (**new** practices and behaviours)

- The **competencies** associated with the use and exploration of the digital:
  - knowing **what to do** with the digital (incorporating it into the material)
  - **when** to do it and what questions to ask
  - and **what** information is critical for this

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Competences

Araújo, P. e Gouveia, L. (2021). Metodologia CHA: Uma proposta para o desenvolvimento de competências por meio da robótica na educação. In Capítulo 1, pp 9-22. Araújo, P.; Araújo, D. e Gouveia, L. (orgs). (2021). Reflexões sobre a Educação no Século XXI. Da tecnologia à inclusão. Conhecimento Editora.

- The triad of KSA: **Knowledge** – **Skills** – **Attitudes**

Knowledge	Skill	Attitude
know	**Know how**	**Want to do**
Specific technical knowledge, education, experience, and other expertise	Practical experience and mastery of technical knowledge through its concrete application and skill in performing it	Personal characteristics that lead one to practice or not, what one knows and knows

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Hybrid

an emerging trend or making the new from the old

hybrid

/ˈhʌɪbrɪd/

Ver definições em:

All | Biology | Linguistics | Motoring | Horticulture

noun

1. BIOLOGY
   the offspring of two plants or animals of different species or varieties, such as a mule.
   "the bird was a **hybrid of** a goose and a swan"

   Sinónimos: cross | cross-breed | mixed-breed | mixture | blend | meld

2. a thing made by combining two different elements.
   "jungle is a **hybrid of** reggae and house music"

adjective

of mixed character; composed of different elements.
"hybrid diesel-electric buses"

"You take nothing from nothing, the new comes from the old, but it is no less new for that"

Bertolt Brecht (1898, 1956) about the theme of novelty

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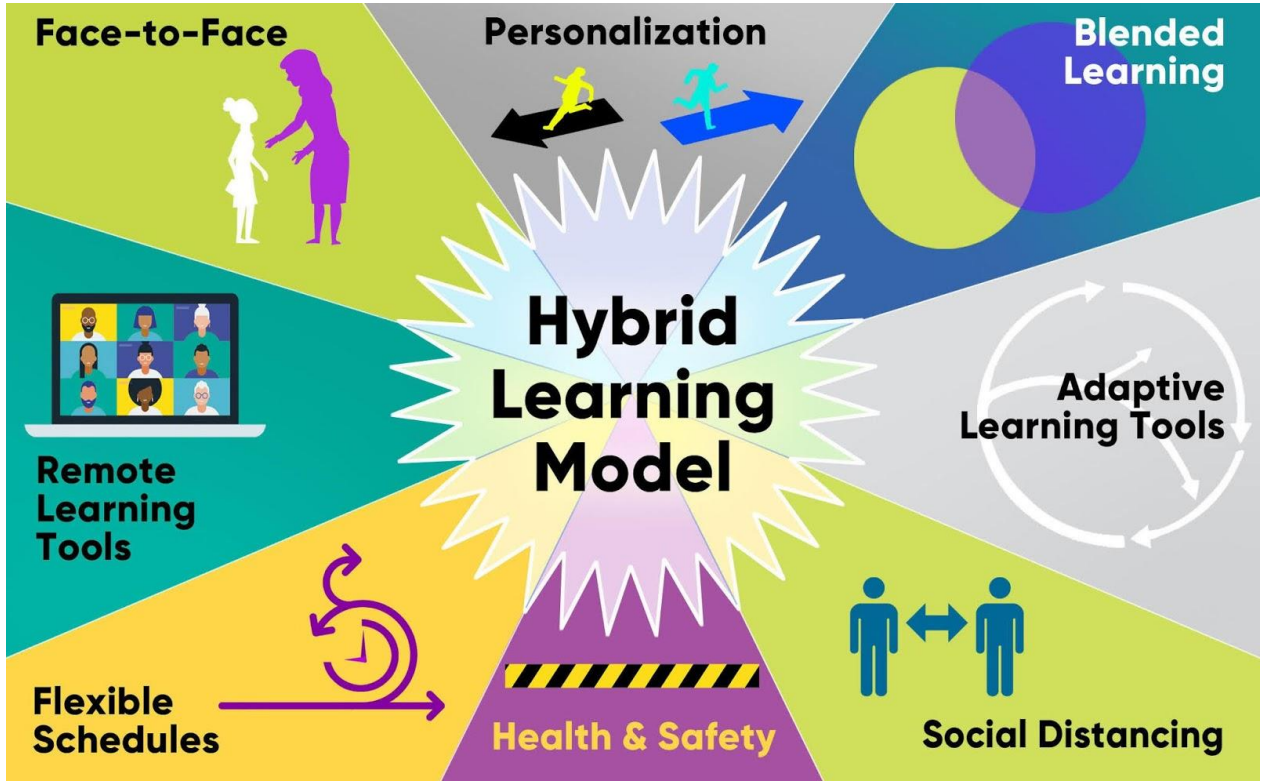
One example
Hybrid Education

Rocha, D.; Gouveia, L. e Peres, P. (2021). Práticas pedagógicas inovadoras: novos desafios. Capítulo 2. In Rocha, D. et al. (org.). Aprendizagem digital: curadoria, metodologias e ferramentas para o novo contexto educacional. Porto Alegre: Penso, 2021. ISBN: 9786581334147

- In **modality**:
  - Presential and remote, considering their coexistence and overlapping
- In **practices**
  - More collaborative and participatory, providing a more effective use of the attention and time of all participants
- In **teaching strategies** (active methodologies)
  - Problem based learning, Project based learning
  - Competences & skills based learning, peer learning
  - Inverted classroom, among others
- In the **service** to those who learn and those who teach
  - personalization, gamification, and learning paths
  - content curation de conteúdos, of data, information and processes
  - datification fair and focused in the user (implies privicy compliance and the aid in the creation of safe contexts, for individual activity) – againts the idea of the product is the user
  - automation of practice in processes related with the teaching and learning



http://esheninger.blogspot.com/2020/06/moving-to-hybrid-learning-model.html

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Some ideas

Peter Diamandis, on future-proof your business

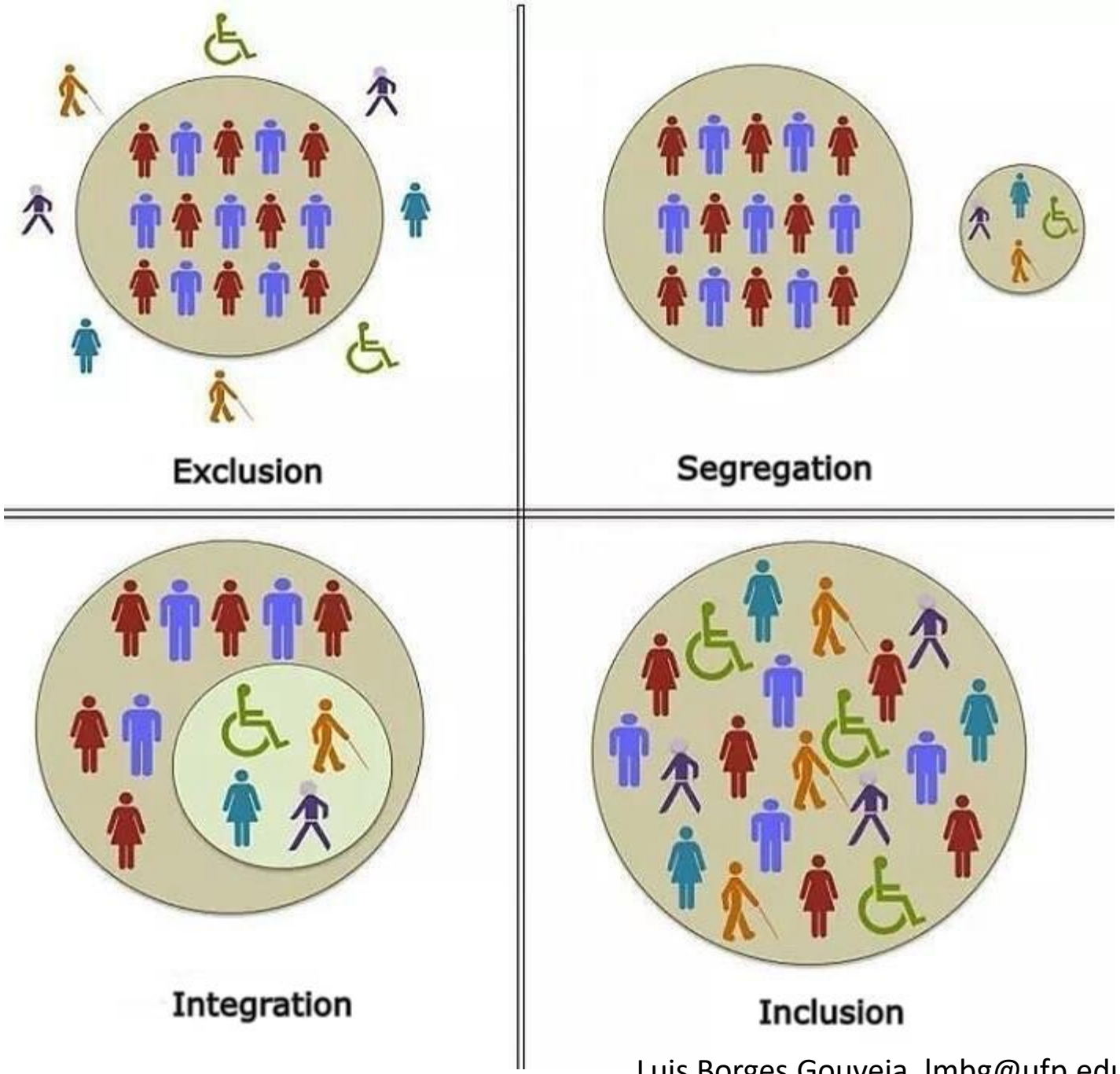
https://www.diamandis.com/

- *"The convergence of exponential technologies… computation, AI, robotics, biotech, networks, sensors, 3D printing, AR/VR and blockchain... These technologies are stacking and recombining – ultimately transforming markets and business models."*
- *"The problem with such significant change is that most people fear the future, instead of being excited by it."*
- *They fear what they don't understand and can't predict. And fear is a terrible mindset for taking advantage of the opportunities ahead."*
- The only solution to this fear is **knowledge and community**… to face the unknown (the role for more research and innovation)

Inclusion

requires the involvement of all a community

"It takes a village to raise a child"
Old African proverb



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Possible ways forward…

- Reinventing our notions of time and space
- Reinventing the function of processing information
- Dealing with the challenges of information
- What is fair and what to protect and how (e.g. person or people?)

Doing this in a network!
***(diversity** is key)*

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Information places: an hard line to people

The case for interpretation & understanding

- People still needed to deal with information complexity? What turns interpretation different from opinion is to rely on supporting evidence
  - The impact of technology in people jobs where discussed in Frey, Osborne(2013) where they claim 49% of current jobs cease to be sustainable: "…***the ability to convey not just information but a particular interpretation of information is what turns human intervention required…***"
- Information overload and understanding is key to explain why current information systems, information management (and supported institutions) are getting more and more on failure
  - early thoughts about the use of information and its understanding on Information Anxiety 2 (2001), Richard Saul Wurman

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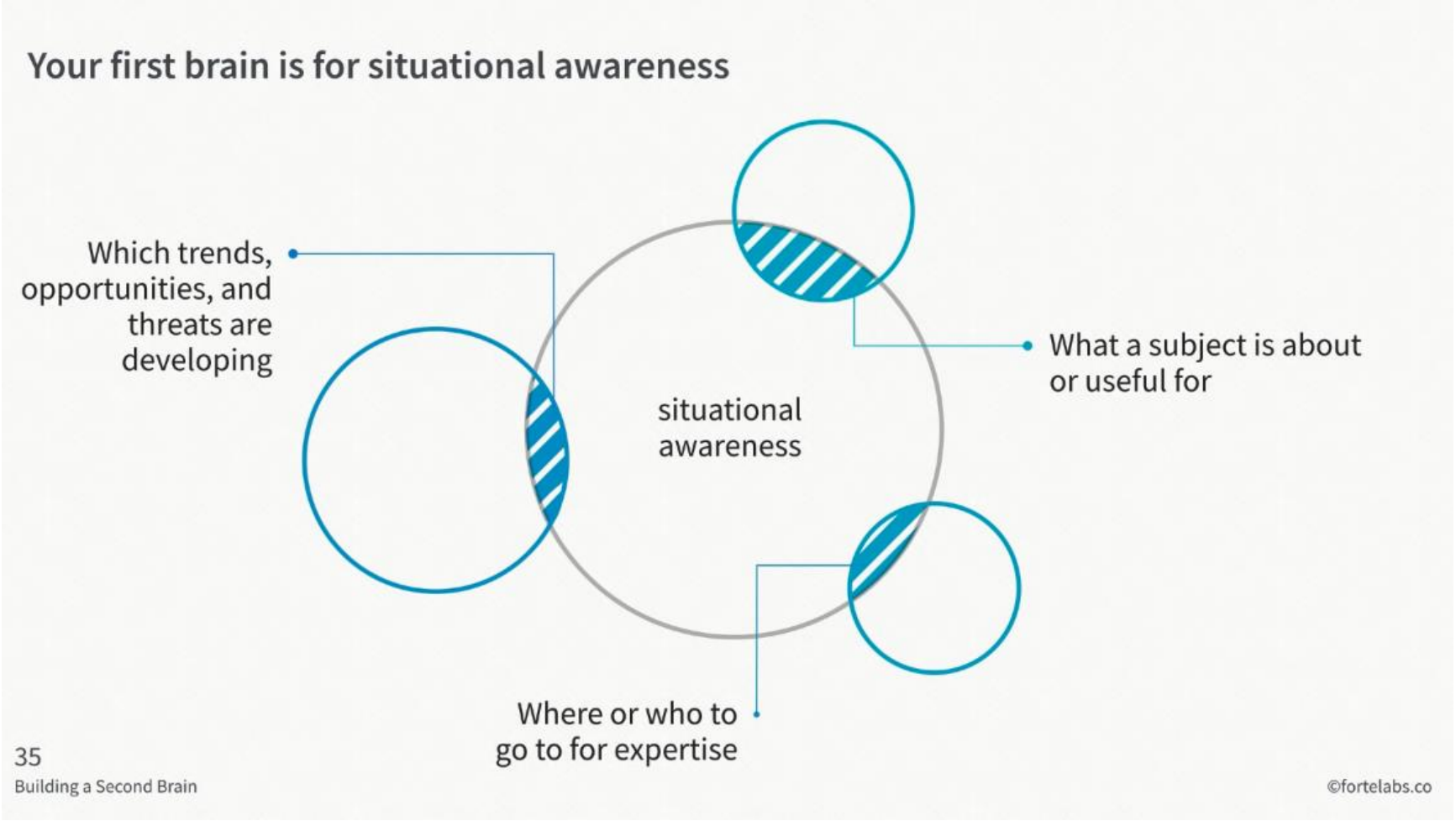
Tiago Forte on productivity and information

Forte labs https://fortelabs.co/

- Support information management by **digital** (platforms) **mediation**
- Average information consumption per day
  - 174 newspaper's worth
  - 11.8 hours
  - 113K+ words
  - Growing +2.6% per year

(UCSan Diego, 2014)



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The case for information management

How & why digital platforms are key

- Digital plaforms are key to support **power relations** with other
- A state **must have its own** digital platforms
- Any type of organization has or want to have (IMPOSE) its digital platforms

IN ORDER

- To **control** relationships instead of interactions
- To collect and relate **data**
- To **have** its own unique information, available in real time
- To aggregate **value** and foster its network capabilities

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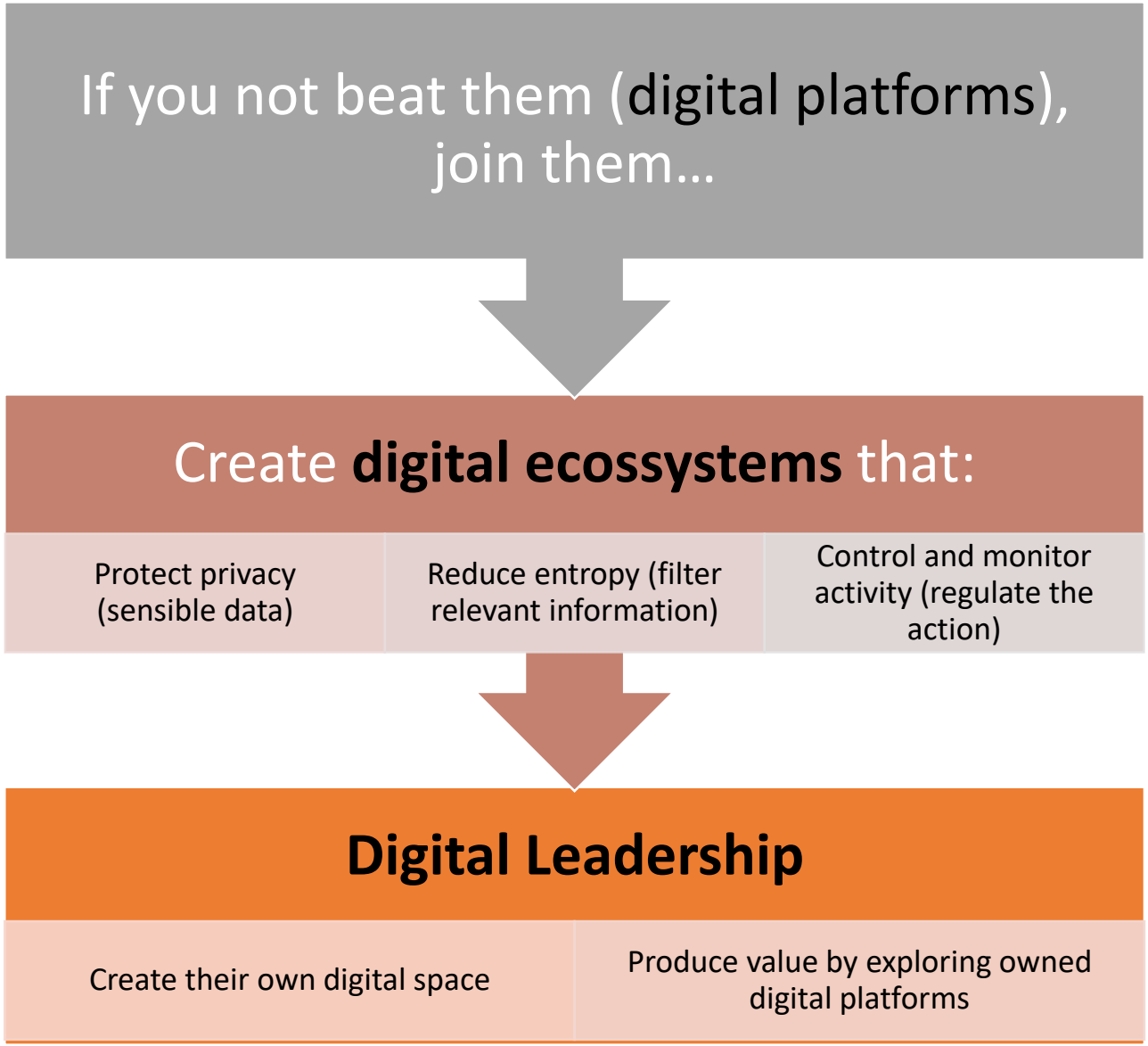
Solutions? Digital leadership?



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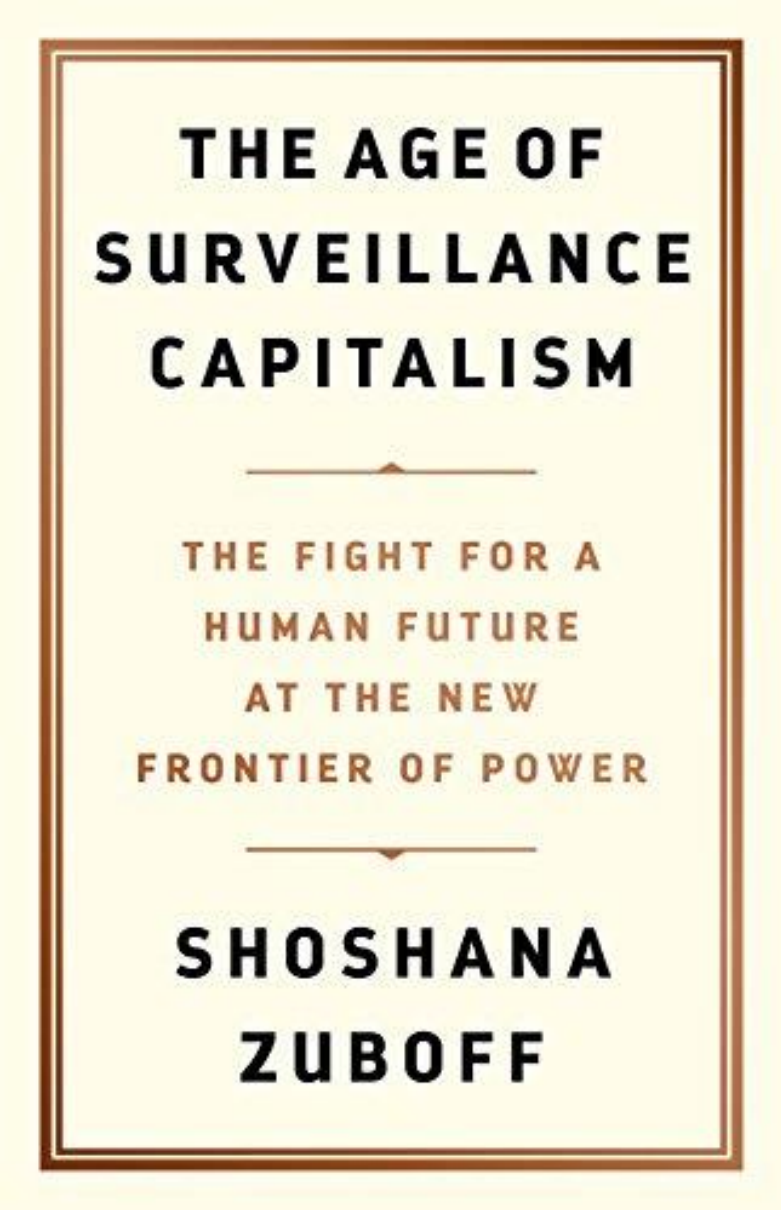

Survaillance Capitalism (SC)

https://shoshanazuboff.com/book/

- Constant recording, analyzing and attempting to modify human behavior for the benefit of technology giants trading in future behavior markets
- Knowing what people will do tomorrow or next year is of enormous value to those who want to sell a product or service, or control certain behavior
- SC processes human behavior by tracking, measuring and analyzing it from the smartphone to the smart home; from surfing the Internet to private messages or emails
- This dominant and relatively new force intrudes through cookies and privacy permissions that, in most cases, must be accepted for a service to work, including even, security systems

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Cities cortex

we need to turn our cities living spaces

- Cities are/represent:
  - 2% area covered by cities on our planet
  - 50% of people live in cities
  - 75% of energy consumption is in cities
  - 80% of carbon emissions are produced in cities
- Requiring not just data available (reliable and real time) BUT information
  - Individual awareness
  - Shared values
  - Balanced & sustainable activities

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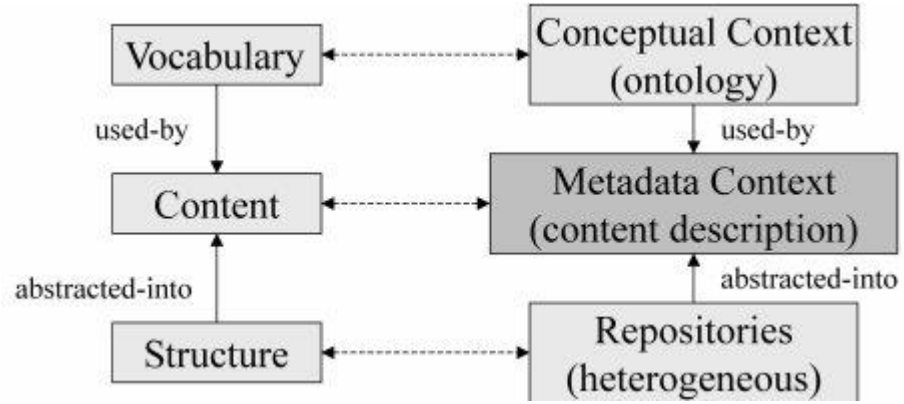
Interoperability is key

- Considering the traditional:
  - System (data presentation)
  - Syntactic (data language)
  - Structural (data architecture)
  - Semantic (data contexto)
- But also within higher abstraction levels
  - Information
  - Knowledge
  - Process
  - Operations
  - Digital platforms
  - Betwen digital platforms (digital ecosystems)



https://www.researchgate.net/publication/2562778_Practical_Context_Transformation_for_Information_System_Interoperability/figures

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Beyond Internet – the Metaverse
The new frontier (*a lot of "further research" is needed*)

- *The idea of **digital ecosystems that can be shared and integrated or interoperable with the analogue reality***
- Metaverse, as a concept, have existed for a long time
  - digital shared universes where we can take on whatever personality we want, or work together on collaborative projects
- **NFTs** resolve the unique and value issue of digital original/copy equality

Stephenson's cyberpunk novel *Snow Crash*, where the term first appears to have been used. *The Matrix* movies, the Second Life world, among others are first manifestations

https://bernardmarr.com/what-is-the-metaverse-an-easy-explanation-for-anyone/

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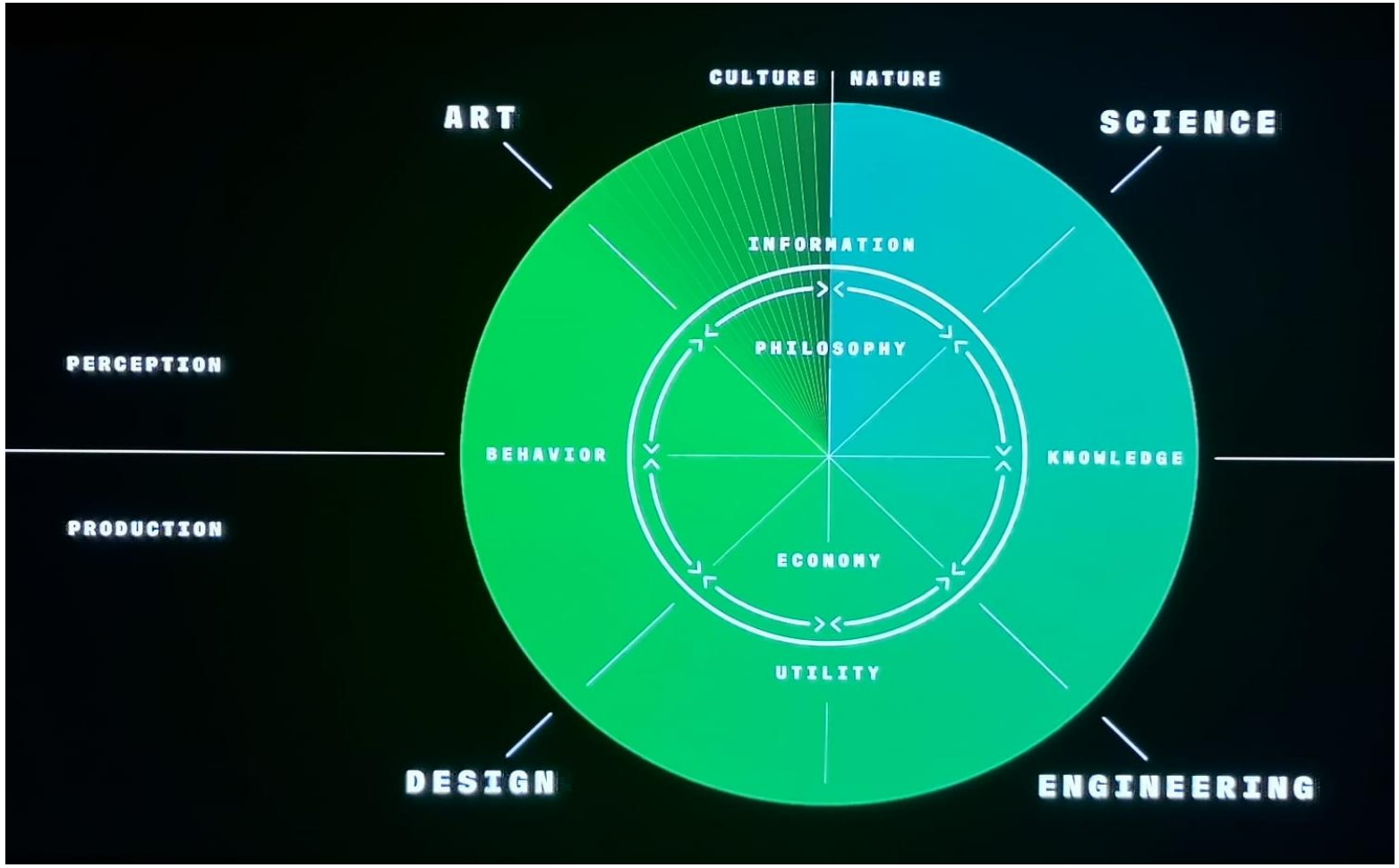
Neri Oxman, Material Ecology (from multi to interdisciplinar)

The digital and analogue world fusion: *https://neri.media.mit.edu/*

- considers computation, fabrication, and the material itself as inseparable dimensions of design
- products and buildings are biologically informed and digitally engineered by, with and for, Nature



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Our efforts & concluding remarks

Links to some work
Available reports on some information related issues

- On digital education:
  - Plan for action, based on information management *https://bdigital.ufp.pt/handle/10284/3255*
  - Na idea on how to explore human condition within digital platforms *https://bdigital.ufp.pt/handle/10284/7219*
  - Use of active methodologies to adapt new settings *https://bdigital.ufp.pt/handle/10284/10442*
  - A multidisciplinar approach to traditional problems *https://bdigital.ufp.pt/handle/10284/10591*
- On ciber(war)fare:
  - Deal with current ciber complexity *https://bdigital.ufp.pt/handle/10284/9678*
  - Deal with current ciber reality *https://bdigital.ufp.pt/handle/10284/10495*

Infocommunication

Gouveia, L. e Silva, A. (2020). A Infocomunicação ou a Convergência das Ciências da Informação e da Comunicação para um Objeto Comum. Revista Páginas a&b. S.3, nº especial (2020) 15-33. ISSN 0873-5670. DOI: 10.21747/21836671/pag2020a2
https://ojs.letras.up.pt/index.php/paginasaeb/article/view/7814

- Due to the emergence of information and communication fusion regarding current digital ecossystems, we need an **unified and integrated view** over those two fields/perspectives
- **Neologism** formed by two terms: information + communication. It is justified to advantageously overcome the designation, put into circulation in the sequence of the informationalism or the computer revolution unleashed in the second half of the 20th century, of Information and Communication Technologies.
- **Human beings** are infocommunicational by nature, able to represent themselves and the World through signs and symbols and to share these representations, although there is no symmetrical relationship between informational production and sharing/communication of information produced.
- Infocommunication helps to better define the **object of study of Information and Communication Sciences** and can be defined as the *processual dynamics, analog and digital, of content creation, its organization and communicational sharing*.

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The new technology are people

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- **Entrepreneurs** will create more wealth in the next decade than we did in the *past century*
- We'll also experience the **reinvention** of every industry.
- **Understanding** how to navigate this accelerating technological change is essential

Who will those people come from?

- Hope they come from PhD & other people who **master knowledge** and have the competences for it (knowing know and want to do it) with **ethics**
- Thus, **proving the care for a better and fair world**, maybe people centered (even greater challenge with the rising of ChatGPT and other AI tools)

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