Ethics

in a world of

AI and MACHINE LEARNING

candor
governance specialists

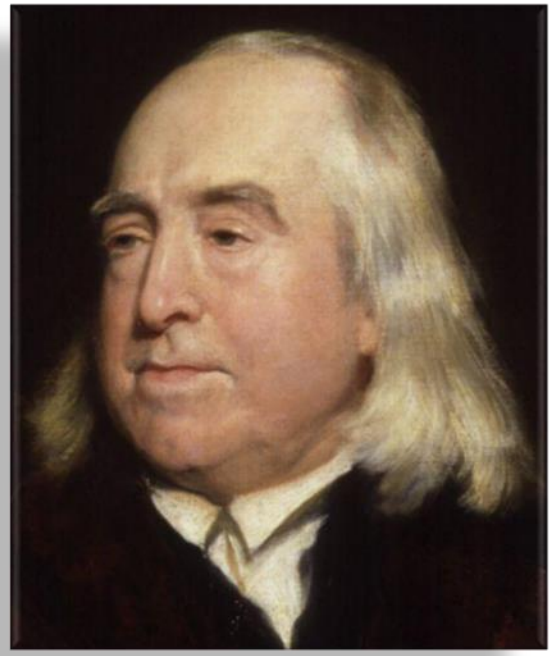
Immanual Kant

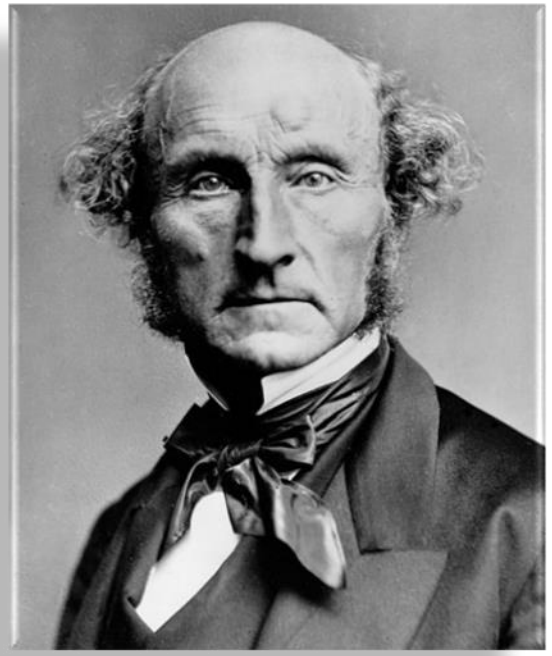
1724 – 1804

Categorical Imperative

There is a supreme principle of morality, irrespective of consequence

Ethics thought leaders - UTILITY





Bentham (1748 – 1832)

Happiness is experiencing pleasure and lack of pain (Hedonistic)

Mill (1806 – 1873)

An action is right if it maximises general utility (Utilitarian)

Legislation

- Bill of Rights and Constitution
- Companies Act & Social & Ethics Committees
- Prevention of Corrupt Activities Act
- Consumer Protection Act
- National Credit Act
- Competition Act

Codes & Standards

- King IV™
- UN Global Compact
- ISO
- COBIT 5
- OECD Recommendations

Professional Codes of Ethics

- Integrity
- Objectivity
- Confidentiality
- Competency

Machine Intelligence Research Institute

The Ethics of Artificial Intelligence

Bostrom & Yudkowsky, 2011

“Current AI offers us few ethical issues that are not already present”

But in the future:

- Social roles - transparency and predictability
- Unpredictable contexts - safety assurance & engineering design
- Mental states - moral status and “persons”
- Superhuman intelligence and abilities – super-ethical behavior

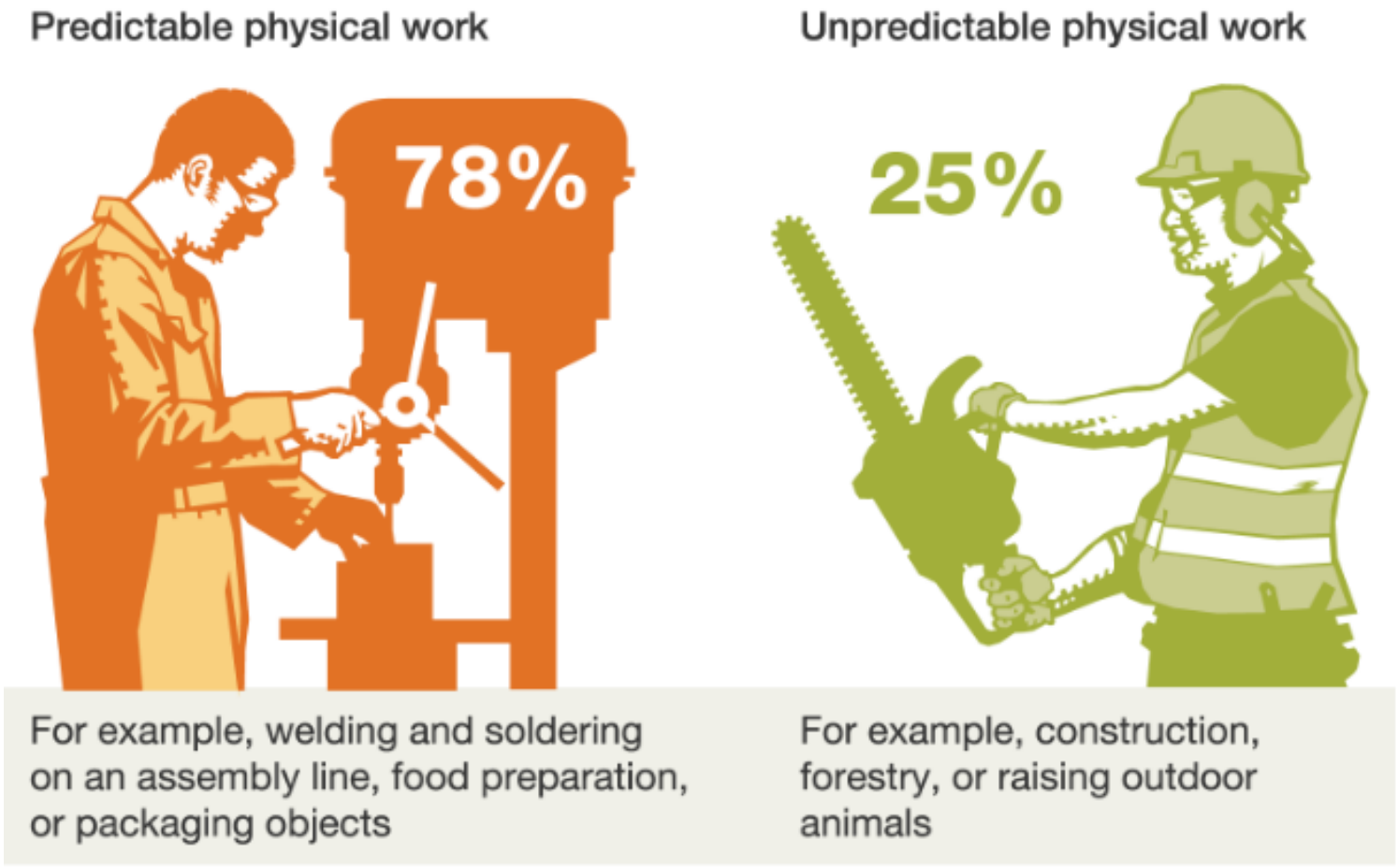
“These challenges may seem visionary, but it seems predictable that we will encounter them; and they are not devoid of suggestions for present-day research directions.”

World Economic Forum

2016

9 Ethical Issues in Artificial Intelligence

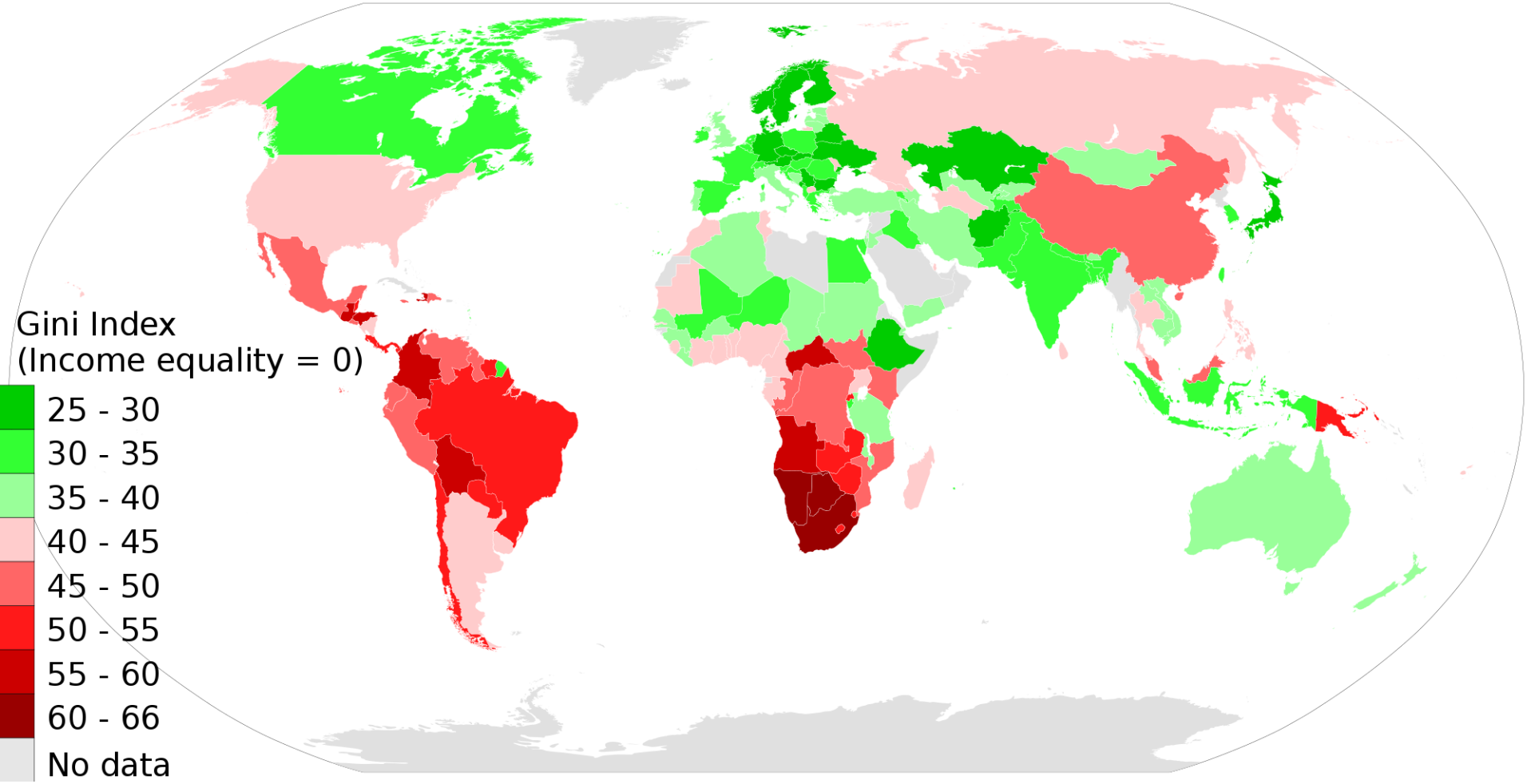
1. Challenges - Employment



% of time spent on activities that can be automated by adapting currently demonstrated technology.

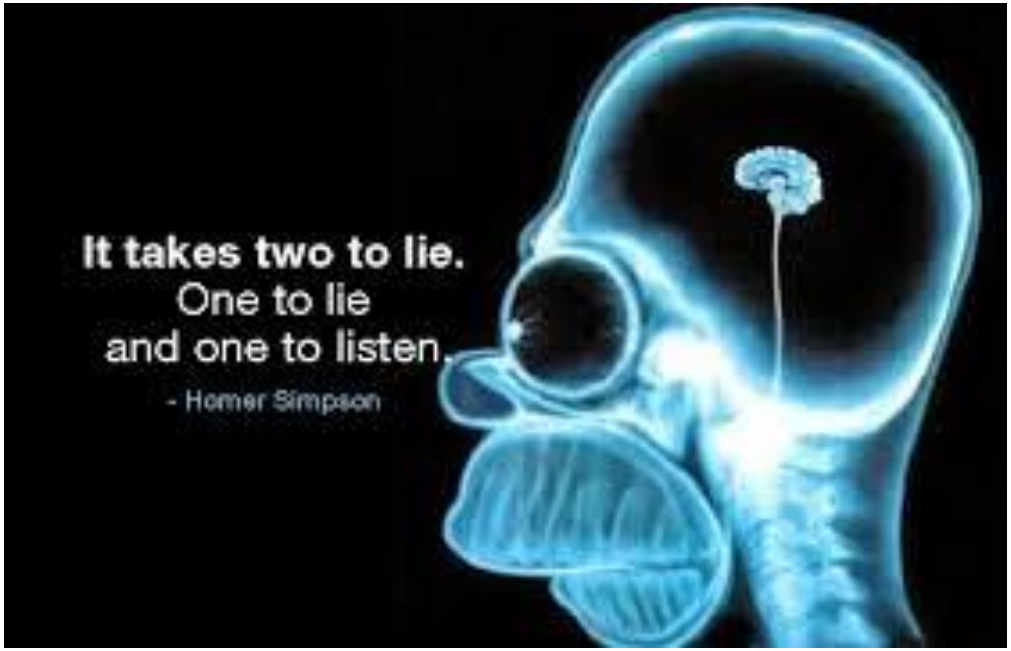
McKinsey&Company

2. Challenges - Wealth



3. Challenges - Humanity

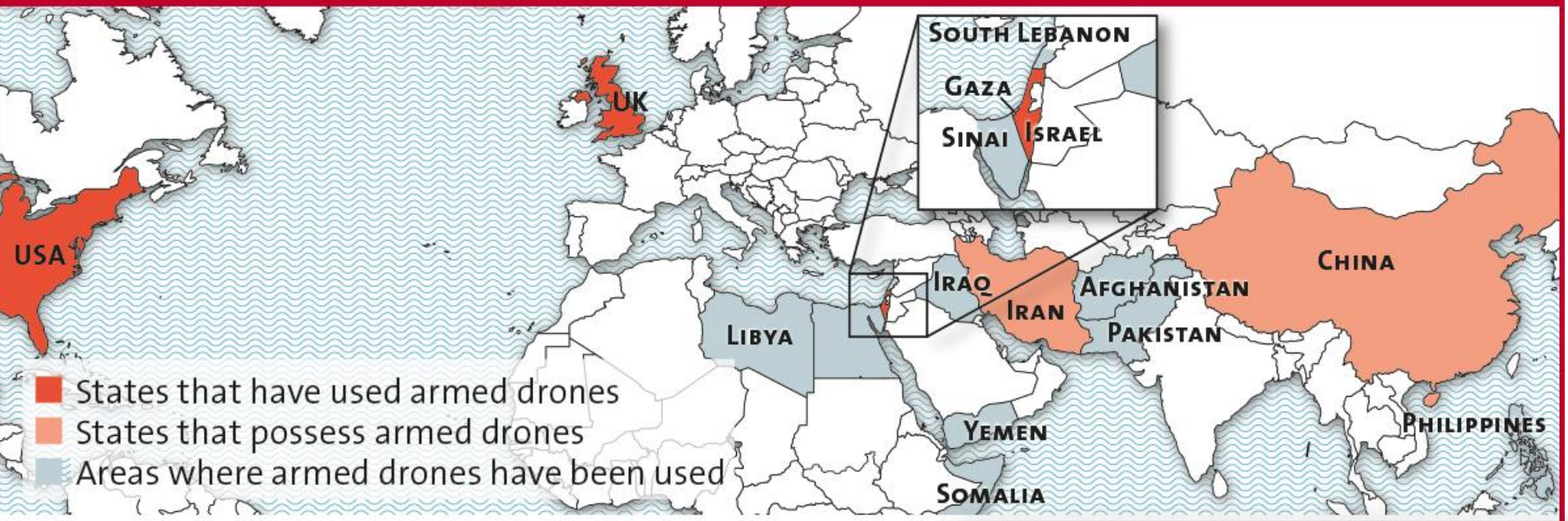
4. Challenges - Stupidity



5. Challenges - Bias

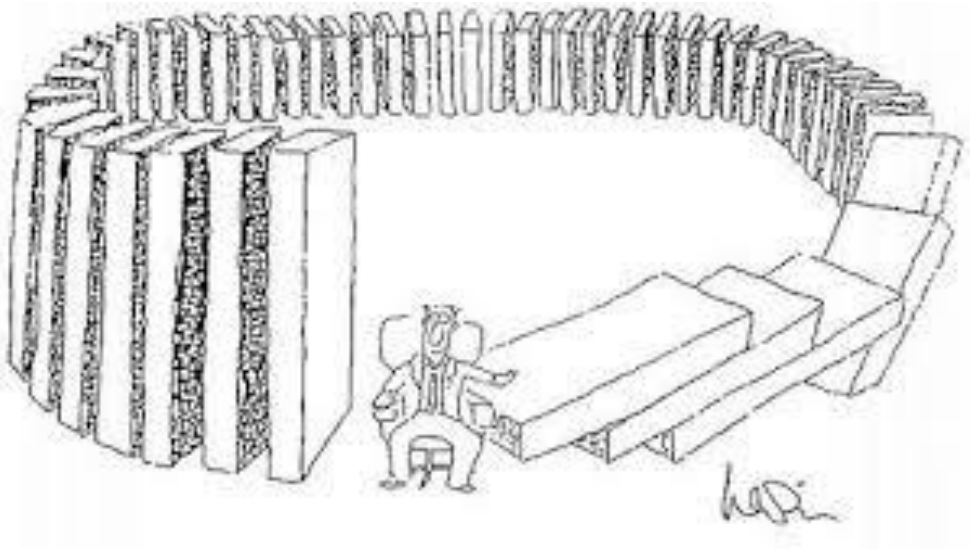
6. Challenges - Security

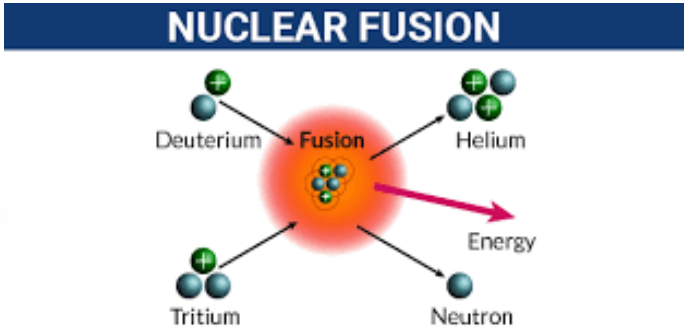
Proliferation of Armed Drones



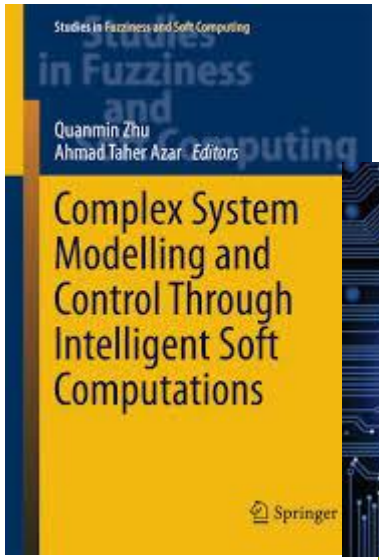
Source: CFR
CSS Analysis in Security Policy No. 164, November 2014 (Center for Security Studies, ETH Zurich)

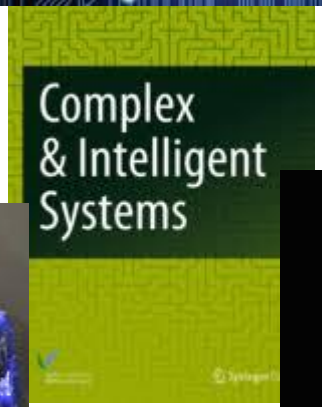
7. Challenges – Unintended Consequences

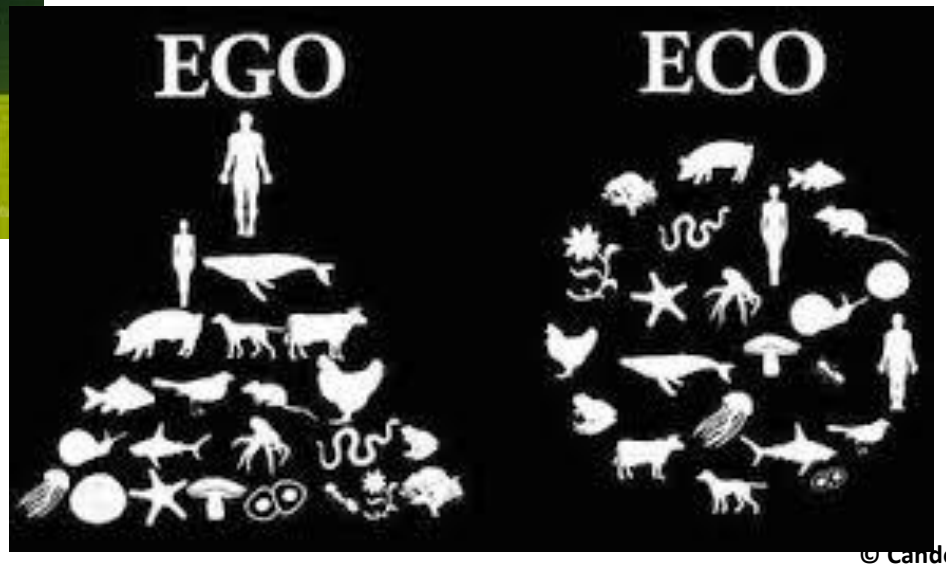




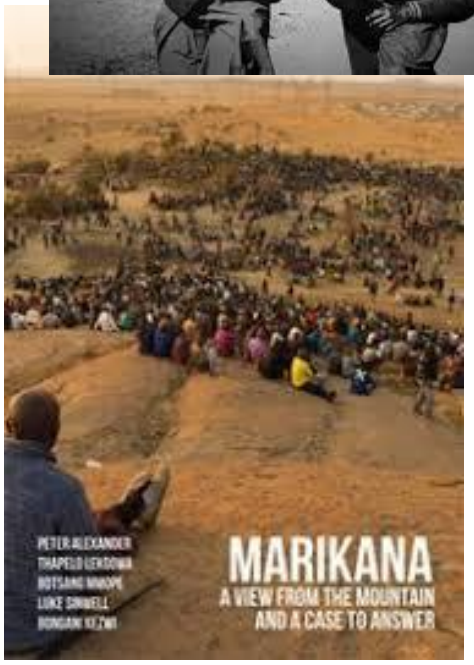
8. Challenges - Singularity







9. Challenges - Rights



Increasing Demand

Feb 2018, Deloitte Netherlands

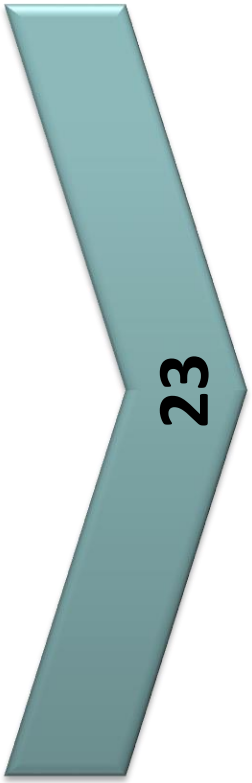
Value	Example
Cost reduction	High level of intelligent automation in call centers for insurers
Optimal service efficiency	Efficiency in healthcare by reducing contact moments between patients and general practitioners (implementing smart chatbots to perform triage and answer most common questions)
New flows of revenue	Cross-sell and up-sell of products in e-commerce via intelligent recommendation systems and via high-level of personalization
Customer satisfaction	New services such as grocery shops providing health advise to customers

- **Disease diagnosis and illness treatment**
- **Fashion design and customer interaction**
- **cyber crime and fraud detection**
- **personalized advertising and support**
- **logistics and on-time delivery**

Asilomar conference

January 2017

- **Stephen Hawking and Elon Musk**
- **23 Asilomar AI Principles**
- **https://futureoflife.org/ai-principles/**



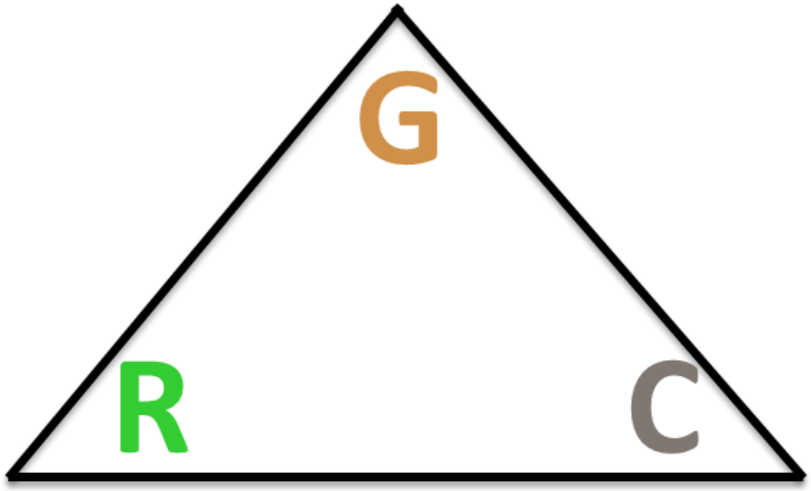
Research Issues	1. Research Goal	Objectives	**Development**
	2. Research Funding	Funding	
	3. Science-Policy	Intent	
	4. Research Culture	Culture	
	5. Race Avoidance	Safety	
Ethics and Values	6. Safety	Secure	**Implementation**
	7. Failure Transparency	Learning	
	8. Judicial Transparency	Decision-making	
	9. Responsibility	Responsibility	
	10. Value Alignment	Values	
	11. Human Values	Ideals	
	12. Personal Privacy	Access	
	13. Liberty and Privacy	Rights	
	14. Shared Benefit	Community	
	15. Shared Prosperity	Equality	
	16. Human Control	Control	
	17. Non-subversion	Non-subversion	
	18. AI Arms Race	Harm	
Longer-term Issues	19. Capability	Limitation	**Operation**
	20. Importance	Impact	
	21. Risks	Risk & Compliance	
	22. Recursive self-improvement	Continual Improvement	
	23. Common Good	Global Concern	

Integrated GRC Approach

Governance, Risk and Compliance

Principles – the right things to do

Should Do



If You Don't

Controls – Keeping things right

Must Do

Practices – the right way to do things

THANK YOU

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