



Public Intelligence

Empowering Accountable and
Ethical Innovations.

Contributors

Abigail Holt
Keeley Crockett
Ana Chubinidze
Nenad Rava
David Young

Author

Sherin Mathew

Editors

Elaine Feeney
David Young
Parisa Murtza
Stefan Janusz
Claire Taylor
Sam Datta-Paulin

About The Author



Sherin Mathew

Founder & CEO of Innovation Exchange & AI Tech North. Founder of Public Intelligence.

Sherin is an established thought leader within Artificial Intelligence (AI) and data specialising in AI-readiness, AI strategies, mentoring and guiding leaders with Cloud adoption. As the CEO & founder of the largest northern AI Community in the North UK, he has been recognised in DataIQ Top100 in 2021 for Sherin's work to bridge the divide, and evangelises and democratises AI across the Northern Powerhouse over the years.

Sherin also runs a global knowledge-sharing digital platform called Innovation Exchange. Sherin's Mission is to "Disrupt the AI Disruption!" and embrace an ethical approach to build trustworthy and people-centric intelligent innovations. He is an untiring advocate for the creative and innovative side of these technologies, and he believes in AI for people and AI for good.

About The Contributors



Abigail Holt

Barrister practising from leading human rights chambers, Member of the Executive Committee of the European Circuit of the Bar.

Abigail Holt is a Barrister practising from leading human rights chambers, based in London. She has long specialised in cases which involve complex medical issues, as well as injury, disability and disease arising out of tort/negligence claims. She also has expertise in cases involving nationality, human rights, European and international law. Having studied Jurisprudence at Oxford University and Healthcare Ethics at post grad level at Manchester University, Abigail has always been deeply interested in the ethical content of legal regulation, issues brought to the fore in the evolution of EU retained law post-Brexit and the government's response to regulation during the current COVID-19 pandemic.



Keeley Crockett

Professor in Computational intelligence, Centre for Advanced Computational Science.
Department of Computing and Mathematics,
Manchester Metropolitan University, UK

Keeley gained a BSc Degree (Hons) in Computation from UMIST, and a PhD in the field of machine learning from the Manchester Metropolitan University entitled "Fuzzy Rule Induction from Data Domains". She is A Senior Fellow of the Higher Education Academy. She is a knowledge engineer and has worked with companies to provide business rule automation with natural language interfaces using conversational agents. She leads the Computational Intelligence Lab that has established a strong international presence in its research into Conversational Agents and Adaptive Psychological Profiling and practical Ethical AI.



Ana Chubinidze

Founder of non-profit organisation AI Governance International and independent consultant in the field of AI Ethics and Governance.

Ana is a founder of non-profit organization AI Governance International and independent consultant in the field of AI Ethics and Governance. She is also a founding editorial board member of Springer Nature's AI and Ethics journal. Ana worked for Big 4 consulting firms in AI Governance. Prior to that researched foresight regulations for Artificial Intelligence with the project Regional Academy on the United Nations. Her academic background is in international relations with a focus in international law and economics. Ana is passionate about engaging various disciplines in AI development and unleashing its best potentials to serve everyone on earth.



Nenad (Ned) Rava

Head of Programme, Joint SDG Fund. United Nations Sustainable Development Group.

Ned has 20+ years of professional experience in Strategic Development focusing on Systemic Design, Strategic Foresight, Social Innovation, Policy and Institutional Change, Learning, Leadership and Stakeholder Dialogue. He has facilitated complex systems change on 60+ initiatives led by, amongst other, the UN, the World Bank, and the EU. Ned works on coherence and integration across "silos" and has contributed to: Business Innovation (Platforms, Incubators, Labs, SMEs, Social Enterprises), Social Policy (Education, Healthcare, Social Protection), Public Administration Reform and Decentralization, Local Economic and Community Development, International and Regional Cooperation, and Democratic Governance.



David Young

Chief Operations Officer, AI Tech North and Vice CEO and Director, Innovation Exchange.

David brings 30+ years of IT and Data experience from several roles including Head of intelligence and Data Solution delivery lead. Certified data project practitioner and is a data and analytics expert with strong experience in operationalising business data and building analytics capabilities.

He has delivered many Analytics, BI and Data Warehousing projects in the capacity of a consultant, project manager, and design authority in various industries including healthcare, finance, retail, manufacturing, automotive, insurance, construction, utilities, media & television, and logistics.

David joined AI Tech North as Operations Director in 2019 to develop his passion for thought leadership in Artificial Intelligence (AI) specialising in AI Ethics, AI for Good and AI Strategy whilst delivering events for the collaborative platform for AI Innovation. In 2020 he took a strategic role in establishing Innovation Exchange (IX) where his role as Vice Chief Executive involves strategic delivery of their global knowledge-sharing digital platform.

Contents

Introduction	10
Background	10
Introducing: Public Intelligence (PI)	11
Summary	12
How is our legal right about to be infringed?	12
The Concept of Intelligence	14
The Right to Intelligence	16
Will it happen again? We need Rights to protect us from another revolution.	16
How is Intelligence Lost?	18
Who Owns the Human Intelligence?	18
How do we subscribe to intelligence today?	19
Does the AI revolution demand a regulatory counter-revolution?	19
Intellectual Colonisation	20
Future Focused Framework – Accountable Innovation & Public Intelligence	23
Introduction to the Global Framework	24
Principle 1 - Right to intelligence	26
Why do we need it?	27
What is the Solution?	28
Positive Impact:	29
Principle 2 - Purpose Driven	30
Why Do We Need It?	30
What is the Solution?	31
Positive Impact:	33
Principle 3 - Disruption Prevention	34
Why Do We Need it?	34
What is the Solution?	34
Positive Impact:	35
Principle 4 - Risk Evaluated	36
Why Do We Need It?	36
What is the Solution?	38

Positive Impact:.....	39
Principle 5 - Accountable Re-design.....	39
Why Do We Need It?.....	39
What is the Solution?	40
Positive Impact:.....	41
Call to Action	43
Conclusion	46
Now is the Time!.....	48



Foreword

My background is technology and engineering, when I was completing my engineering degree almost two decades ago, we were building robots for surveillance to prevent wars and protect vulnerable people from attack. Following this, I have had a career within corporate and multinational organisations working with information technology, big data, analytics, AI recommendations and customer profiling. Alongside strategizing sales to generate more revenue and to redistribute resources.

I absolutely loved designing and architecting solutions but felt sick when I understood that the purpose of these innovations was to micromanage people, replace underperforming managers and push more harmful products into our environment. I noticed that as designers we made many assumptions, none that are validated to consider the bigger picture. New rapid innovations don't consider the bigger impact it has on the ecosystem we live in, our people, and our planet.

In 2018 I founded AI Tech North, an informative movement based in the North of England discussing Artificial Intelligence, data trends and innovative technologies. I wanted to create a platform for passionate and enthusiastic professionals, bringing together hustlers, enablers, thinkers and disrupters. Throughout this journey, I have had the privilege of speaking with some of the industry's leading experts, who fear that we are on a route to societal self-destruction at the hands of our own technology, and somebody needs to address these issues right now, with a proactive and democratic approach.



I embarked on my own independent journey away from the corporate world to freely focus on the solution to our current worrying problem. On this journey the concept of Public Intelligence was born. I created a framework that can act as a constant overarching guideline for any intelligent innovation. I am so pleased to finally be able to share it with you. Public intelligence will serve as a universal requirement for any innovation with the core aim of being consistent, people-centric and accountable. I want the future to be secure, certain, happy, clean and sustainable for all. My mission is to empower everyone to create a sustainable future with accountable innovations and protect our Public Intelligence!

Sherin Mathew

Founder of Public Intelligence

Executive Summary

Human beings are an ingenious group. Over our lives we acquire skills, learn the ricks of the trades and find solutions to the problems we face.

With our intelligence we have built cities, constructed the wonders of the world, and even changed the face of our planet.

From the stone age to the modern age, our intelligence has been our tool and the centre of our institutions, our societies, and our lives.

Increasingly, we have outsourced these skills to technology without question. And without realising the direct consequences because we are unaware of the implications.

- We simply hit the agree button and carry on installing countless apps.
- We are totally unaware of the algorithms that are controlling our lives, informing, analysing and influencing everything from our shopping behaviours to world markets.
- We want accessibility at the drop of a hat and want technology to do most of our jobs.
- We let our phones be discarded every couple of years.
- We have accepted the bombardment of technology, and the dying state of our planet as normal.
- We want everything at the CLICK of a button without fully understanding the moral and ethical implications for ourselves and society!

We need to ask ourselves, is this what we want? Is this how we are supposed to live? Don't we have the right to have our say?

We are inviting you on our journey to discover the truth behind how intelligent technologies are transforming our lives and the ethical challenges they possess to our society, our jobs, our future and our planet.

This is a much-needed awareness that will reshape the world for the good of all, not just big technology firms. A secret that we should all be aware of but have failed to see due to the commercial nature of all innovations out there today. A concept we didn't realise that existed, that we all have rights to our own intelligence. And that's Public Intelligence.

Introduction

To objectively understand the true impact of the innovative development of intelligent solutions such as Artificial Intelligence (AI) - this paper introduces the basic concept of intelligence and the history of advancement in intelligent innovations before we dive into the answer. Our primary focus is to analyse the impact, the current state, and the future of advanced intelligent applications.

This paper delves into the issues related to the lack of accountable innovation and aims to build public awareness through a democratic global framework.

Background

Over the past 60 years of AI, Information, and advanced technology evolution we have made new breakthroughs and poured new capabilities into the development of our economy and society. AI has become the new 'high ground' in strategic competition for countries around the world. But the widespread application of AI has brought a series of new challenges to society in areas such as, laws and regulations, ethics, and social governance.

In today's world we are living and breathing technology... smart technology, smart cars, smart cities and hundreds of apps. Every day in our transactions and engagement, technology is a core part of our living, it has become an intrinsic part of our lives and it is the centre of every institute.

Therefore, the topic of AI, which offers both opportunities and challenges, has attracted attention worldwide and is taken very seriously. Although, there are uncertainties in the future innovation of AI, it is widely recognised that the AI boom will bring about a new social culture. It can promote industrial transformation, and most importantly, it will profoundly change people's work and public lifestyle.

***“We are about to face an intelligent revolution
with profound and long-lasting influence.”***

The current rate of innovation is moving so quickly that even regulatory and governing bodies are behind the pace of technology. This means current innovations can be implemented without regulation.

Consequently, new unaccountable innovations present multifaceted challenges to almost every element of life as we know it.



Introducing: Public Intelligence (PI)

Public Intelligence is a revolutionary new concept which aims to bring awareness of our human intelligence, alongside addressing the global and ethical challenges we face today.

Over centuries, we have acquired public knowledge through the development of skills, acquisition of tools, and practices to support survival as a human ecosystem. We refer to this system as our society. Our intelligence is a formation of these elements and has given rise to life as we know it, our economy, our education, our professions, our wealth, and our health. In industries such as agriculture, finance, manufacturing, and healthcare we use our intelligence, abilities, ideas, intuition, and experience to support every day decision making. The individual and collective power of ‘*Public Intelligence*’ is part of our DNA and an essential part of our human evolution.

***“One of the biggest problems we face today is that
we are not aware of the concept “Public Intelligence.”***

Sherin Mathew

Yet almost every day we lose our individual and collective intelligence, due to the introduction of rapid innovation and cutting-edge technology, Automation, AI, Robotics and Extended Reality (XR). This can transform us into being less human and more digital.

When intelligence is digitalised, domesticated, and colonised for commercial benefit, it devalues our individual and collective Public Intelligence. The lack of public awareness about the reality of this is now negatively impacting our human intellectual capabilities and our sense of purpose.



Summary

The most important aspect of public intelligence is the awareness and protection of our natural human skills. To survive, work, and provide necessities such as shelter, food, finance & social stability.

Our human skills to create art, farm, police, and to manage projects, require exceptionally advanced skills. The principle of farming across the world, from east to west is the same. Driving a vehicle, teaching children in our schools, managing large projects. People across the globe demonstrate specialist human intelligence. We have the public right to protect our intelligence and the ecosystem around it - because we have jobs, we have families, and we have a future generation ready to acquire this intelligence.

Our **Public intelligence** project has three goals:

1. Bringing awareness of public human intelligence to the masses
2. Promoting an understanding of intellectual disruption and colonisation
3. Managing and protecting our rights to intelligence by empowering ethical innovations

We currently don't have specific protected rights to our own Intelligence. We intend to shine a light on this issue and raise public awareness, making it a crucial turning point to save our jobs, planet and our future!

How is our legal right about to be infringed?

We witness that an array of laws were passed for Child Labour, Labor Movement, Factory Act, Minimum Age, Fair Labour Standards, and many more because of the industrial revolution's impact on our society.

Our legal expert advising on the Public Intelligence initiative invokes the need to be proactive and think legally how technologies do not repeat history.

Why do we need human Rights to Intelligence?

Today a complex series of rules and mass of precedent-setting case law protects the employment of individuals in certain given circumstances. However, as technology evolves and machines replace workers, ultimately there is nothing to stop innovative employers from replacing their

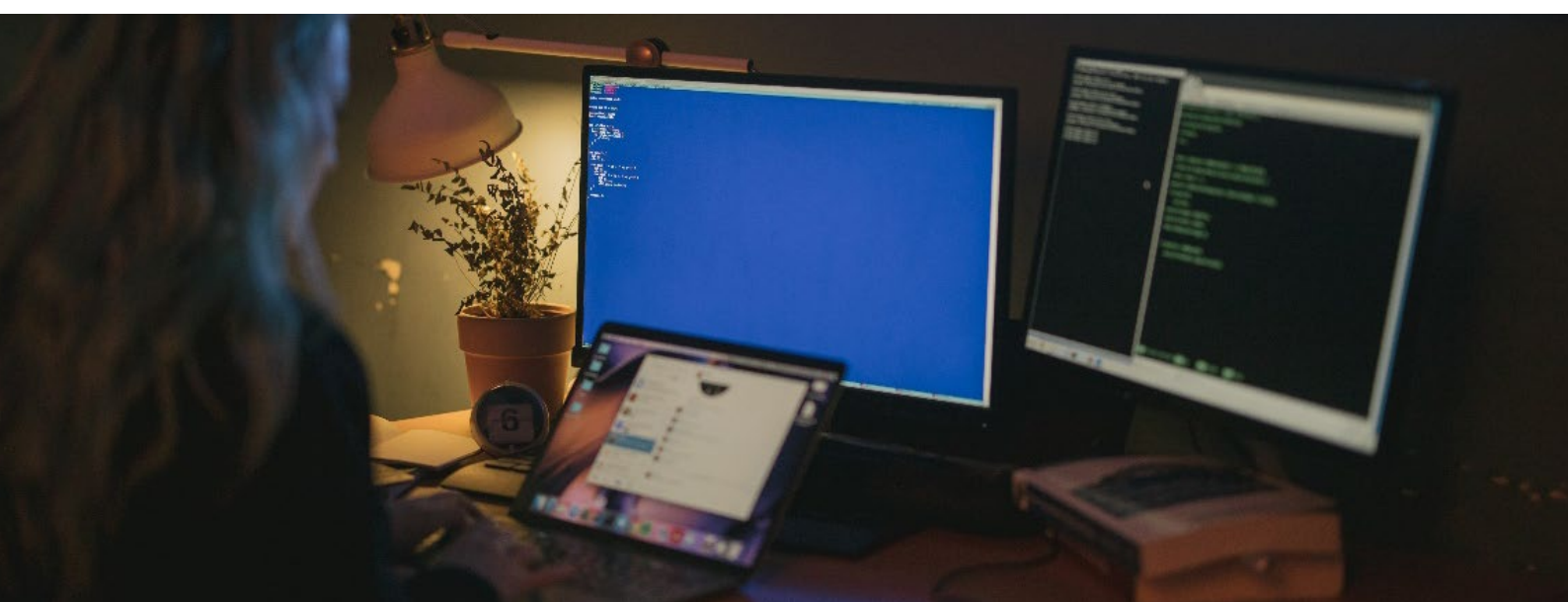
workforce with machines in the name of economic efficiency and progress. The consequences for the individuals and communities who become redundant have limited legal redress against such changes, even if families and societies are economically devastated.

Individuals, trades, and professions have never had, and still do not have, legal remedies when technology replaces their skill and expertise. We are familiar with the phenomenon of large populations and areas being economically devastated by new technologies or cheaper labour, for example with the massive loss of heavy industry in areas of the United Kingdom from the 1960's when industrial processes replaced manpower, and when cheaper labour and ways of working in developing countries took on heavy industry for a global market of clients. The law can provide few tools to protect individuals and communities from the multifaceted economic and social consequences, including suffering, caused to those whose life depended on the "old" ways of working, unless or until the law creates such rules. However, the law tends to follow the dictation of economic developments and how law constrains capitalist aspirations is deeply political.

Why should rights be democratic?

"Rights" are not a panacea. They are usually hedged in by the rights of others: when, for example, my right to have fun and a big party on a Saturday night runs into the local council's right to keep traffic flowing and not block the street; and my neighbour's right to peace and quiet and sleep. Insofar as the making of laws and creation of rights is concerned, what if the people who make the laws tend to be overly concerned with the world view and experiences of a certain narrow, relatively powerful, group in their society. Is law emanating from such a society true "law" if it actively discriminates against or even punishes less powerful individuals or groups? A legal right is useless if it cannot be relied on to achieve something in the world.

We have seen in the past public pressure has created a law in a democratic manner. However, in the modern digital age, the law is what the technology leaders say, and people must accept the technology as it is published to them.



The Concept of Intelligence

Definition of Intelligence:

“Intelligence is making informed decisions based on our experience, skills and awareness. Intelligence allows us to discover new information beyond the limits of our current knowledge.

Intelligence is mastering a skill, learning to adapt and exploiting new ways to use the information positively.”

Sherin Mathew

Human Intelligence is a natural progressive human behaviour which makes us constantly push the limits of our knowledge into the realms of unknown. By mastering a new skill or exploiting new information, we are consistently learning new ways to use the information. We are endlessly generating new information from a large set of old information, i.e., data. And when we analyse this new set of information, we discover new intelligence. It is a continuous cycle.

Thereby making intelligence from yesterday, information of today, and data for tomorrow.

Intelligence is core to human nature; we learn new things by pushing the limit of our awareness through our curiosity to explore the unknown until we know them. We all have natural intelligence; some call it common sense or natural abilities to implement a known solution.

Human Intelligence is a complex concept, there are other forms of rationality and reasoning that can relate to intelligence – including:

- social reasoning (finding our way through social norms, integration into social communities),
- normative (developing, applying, and enforcing moral rules),
- political (decision-making in complex settings) and,
- environmental/systemic (seeing and acting in systems).

These other forms of human rationality and action provide a holistic approach to thinking and acting intelligently.

This new intelligence always existed; and it is not until we face a problem it is realised that there could be a better/smarter way of solving the problem. Throughout history, we have evolved our intelligence from learning to make fire, farming, harnessing wind power and the current of the streams for energy, to mechanising and industrialising all our human needs. There is no limit to our human intelligence. The benefit of being human is we quickly learn and, with experience, add

layers to our natural intelligence. Simply put, we learn from our past experiences and apply it to the future.

Innovation has been our friend since the beginning with historic inventions such as the wheel, ships, cars, planes and mathematics. We have discovered vaccines and antibiotics, created education systems, and overall improved our way of living. This is how the human race has always progressed because we are continuously implementing our previous experience to improve every aspect of life today.

From Archimedes, Newton, and Einstein, the principles of mathematics, physics and mechanics is intelligence that has been passed on to benefit humankind. Almost all our engineering today is thanks to the intelligent contributions that have been passed on, making the innovations of one generation the tools for the next. We have a long history of passing on our intelligence to benefit the next generation to create a better future, and we didn't have to pay a monthly subscription every time we did that, it was a natural free instinct as part of being human.

Today we have become too commercially minded, which leads us to question will these intelligent systems we are commercialising deplete and diminish our own natural intelligence?



The Right to Intelligence

When replacing human intelligence with a machine, we create social, economic, and political risk and imbalances which will inevitably lead to inequitable global chaos and discrimination.

The fear of losing jobs to technology, a declining climate, and uncertainty across the world is at an all-time high.

History has a tendency of repeating itself. So how can we ensure the industrial revolution doesn't repeat itself in the form of this new intelligence revolution? Creating imbalance through human progress is not a new concept and has developed over many eras. Throughout pre-industrialisation our resources were from land, livestock, and farming. During industrialisation individuals who could afford mines, oil wells, and factories became very wealthy. Accentuating the rich vs poor divide. As time progressed, technological advances slowly began to replace humans with machines, which eventually evolved and developed a financial and corporate framework, catalysed by globalisation which resulted in the rich becoming richer because they took ownership of advanced innovation.

A byproduct of this is that we are now entering a new era (Industry 4.0) of Robotics, AI and Augmented Technology. An age of new evolving trends such as smart tech, big data, cloud, robotics and artificial intelligence where we have major disruptors in the market, with multibillion corporations running the show only because of the advantage of intelligence they own.

Will it happen again? We need Rights to protect us from another revolution.

We have been here before. It is part of the human experience to evolve, adapt, make things, and change our environment. Those of us living in the cradle of the Industrial Revolution are particularly well-schooled in the commercial and social upheavals caused by the mass movements from the Lancashire and Yorkshire countryside to work in the chaos and filth of canal and railway-building, iron, steel, engineering, and textiles of the great cities of the North of England.

But with time, the dangerous machinery was guarded and fenced; children were banned from working and schools were set up instead; the health of pregnant women was respected and protected; working hours were limited; the need for clean air, clean water, sanitary housing, safe workplaces, leisure time and recreation spaces were brought about. Increasingly, the health and welfare of people was added to the equations of commerce and profit. Dangerous products were banned.

Regulation was the counter-Revolution, and we show incremental regulatory changes, with benefits of health and welfare trumping unrestrained commercial gains whilst delivering societal and political benefits.

As the labour of the masses is being gradually replaced by machines, modern day techno-aristocrats are mounting an invisible heist of our common human intelligence. The consequences to humans, for whom knowledge, aptitude and wit is their only resource, having to compete with machine intelligence to find a niche in the financial, capitalist ecosystem, is truly frightening. If even the intellect of the masses is rendered redundant then who will they be and what will they do? In the face of such a force, human dignity appears disturbingly frail and vulnerable.

How we can learn from the past and shape a better future!

	Industrial Revolution	Intelligence Revolution
Foundation	Harnessed the power of labour	Harnessing the power of intelligence
Replaced by	Machines powered by water and fuel	Industry 4.0, Digital, AI & robotics
Scale	Siloed industries & factories	Global digital industry & digital users
Speed	Slow physical change	Rapid waves of digital change
Target	Repeated mechanical tasks	Repeatable intelligent or logical tasks
Level of impact	Loss of low earning jobs and manual workers	Loss of low, medium, and high earning jobs
Governance	ISO, ILO, Child Labour, Minimum Age, Factory Act, and more...	Only Data Regulations, IT & Security standards. No rights in place for Human Intelligence
Repercussions	Delayed reaction as the society and system took time to understand the full impact of any consequences	No framework exists for intelligence protection
Key Beneficiaries	Factories with large work force (Industrial)	Anyone with intelligent automation or digital application to get any work done (Intel)
Who is at Risk?	Miners, blacksmiths, cottage industries, cart-drivers, workers.	All sectors -Taxi drivers, teachers, lawyers, clerks, surgeons, writers, news readers, artists, programmers, small to medium businesses, etc
Forecast	Had no forecasts of outcomes or risks	40% job loss by 2030, \$15 Trillion economy growth by AI

Positives	The impact was slow over a century, and people had time to adapt.	It's beginning to rapidly change the world, so the time is now to take actions and to correct our future.
Human Rights	Yes human rights for fair labour, laws for Child labour and for Women workers were created	No Rights to Intelligence exist yet!

How is Intelligence Lost?

Each one of us has intelligence this is unique to us and acquired through our own experiences, it is our intellectual capability. Intellectually speaking, you can only drive one car at any given time. Digitalisation will eventually allow thousands of self-driving cars; subject to regulation, executing your intelligence to drive digitally without human interaction or supervision. Which could be considered as day light robbery of your intelligence and hard-earned skills. Those skills will be lost in the current population and not required for future generations.

Who Owns the Human Intelligence?

We do for now – because artificial intelligent systems are learning from humans who are the source of the intelligence. We could even go as far as saying a robot could be trained to play like Cristiano Ronaldo, and one day might be able to play as well as him, but who would own the robot?

Taking this a step further, what if we combine the expertise of multiple professionals together, creating a super football player whose knowledge, behaviour, and skills are a combination of the very best. Who then owns this combined and derived intelligence?

As individuals collaborate and compete, collective intelligence can be used to combine the intelligence of many individuals which could be captured in a knowledge base. In 2020, a study showed that AI 'outperforms' doctors diagnosing breast cancer. (McKinney, S.M., Sieniek, M., Godbole, V, 2020). An international team (Google Health and Imperial College London) designed and trained a computer model on X-ray images from nearly 29,000 women which had been diagnosed by human consultants. Datasets were labelled by humans before the deep learning algorithm could be applied.

Originally computers didn't know what to do, the skills they were digitalising belonged to humans, now we see computers replacing those skills. When creating intelligence artificially through technology we create transactions which we can operate and process using software. The more we

do this, the more it creates an audit flow which results into automation. And the more we automate, the more technology accumulates our skills and ultimately depletes the need for human interaction. We need to be mindful that our skills can be digitalised, and once digitalised can be enhanced artificially to take its own shape and form.

When designers innovate there must be an honouring and understanding of whether there is a breach of our human intelligence. We should be considering the question *'am I replacing existing intelligence and am I protecting people's right to this intelligence?'*

How do we subscribe to intelligence today?

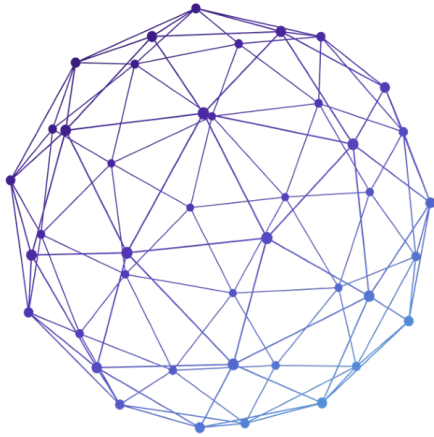
This new intelligent revolution is mirroring human intelligence. If we let it continue without any control or regulation, corporations will continue to replace our intelligence causing large scale damage to our society and planet, whilst leaving the public with no choice over whether it happens or not.

We are living in a digital world driven by profit to make everything cheaper, faster and easier. We are the customers and consumers of the latest technologies and products. The market creates a good impression and presumption that "This is perfect for you" but the digital economy is a high-value, dynamic business, and democratic design is not at the heart of product development.

Does the AI revolution demand a regulatory counter-revolution?

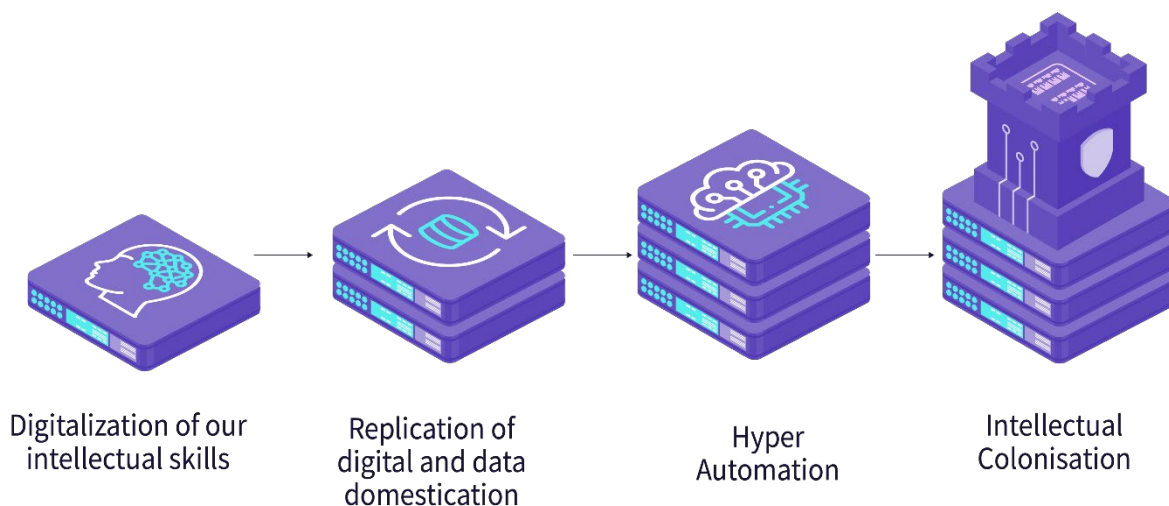
Most truly, not-artificially-intelligent beings aspire to tame algorithms and stamp human dignity and environmental sustainability onto "smart", electronic design to be in control and not enslaved by technology.





Although many see the benefits of intelligent new technologies, many see the dangers of commercialising intellectual capabilities which leave humans otherwise unoccupied; disengaged from the creative endeavours of self-development or nurturing the development of their families and community. Many also see the endless dangerous glitches, chaos, and accidents caused by malfunctioning of AI systems as they develop and evolve, despite the brave new world image of dystopian perfection often projected.

Intellectual Colonisation



Intelligent innovations are great, and we have rapidly innovated over the past few decades making complex tasks such as accounting or designing easy by a click of a button or simply going with the suggested recommendations. This is known as Hyper-Augmentation and we see this everywhere in websites, apps, and software.

But all this convenience and seemingly cool new technology comes at the price of the loss of our natural intelligence. We are sleepwalking into a new problem where everything can be done by the click of a button, which means tomorrow, even the click could be fully automated. So, what happens to your skills and intelligence that you have worked so hard to develop?

Industry Experts says learning new skills may be the answer, but how are 8 billion people going to upskill by 2030 when our education system is still teaching us from an outdated syllabus to today's standard.

Concentration of intelligence in software means that humans lose the right to intelligent decision making, thus skilled individuals become ineffective because intelligent applications have already made the decision for them. When we digitalise our skills, we will disengage from our natural abilities, and if this becomes a habit, we will have a generation that will lose the capability to rationalise. We have already lost of our sense of direction – Thanks to Google. We have already lost our Analytical skills – Thanks to Excel Spreadsheet.

When intelligent technology matures, how are you going to set yourself apart from others if our intelligence is just a 'click' away. Continuing with this practice for another decade has the potential to restrain our personal growth, and make businesses lose their unique selling points, with hyper-automation making their services cheaper and faster.

Technology-driven change takes time to adapt and there are 8 billion people on our planet who are impacted, directly or indirectly, by every new technology or change we introduce. Tomorrow the situation could potentially get worse with whole a host of technology converging and resulting in even more complex ecosystems to work with.

***“Are we sleepwalking into a major human intellectual destruction?
Are we about to lose our digital freedom in the realm of intellectual Colonisation?”.***
Sherin Mathew

Machines will adapt, learn, and fine tune, they will get smarter and smarter, and this is just the beginning of this problem. We haven't even got to the Super Intelligence age yet, but if we allow this to happen now, it won't be long until one intellectual capability merges with another and we create artificial intelligence to understand our emotional responses, gestures, and the tone of our voice. This could be a very manipulative innovation that could predict how we may react in any given situation.

What we need to realise is, 'People' are the only consumers and 'People' are the global customers of every innovation out there today. Therefore, we need to take a democratic step to voice how these innovations should add value to our lives, our society, and our future.

A holistic, balanced, and sustainable approach to innovations of today and for the future is needed. People need to drive an overarching principle that is open, long-term, and empowered by the people, for the people, and the planet.

Today we are not aware of the intellectual colonisation happening behind the scenes. Although innovations are critical for our civilisation, we need to consider the side effects and take a unanimous decision so that new forms of Advanced Innovation do not replicate the purpose of a living person.

Digitalisation has helped us embed our logic into software. New digital content can, however, be copied and pasted. Meaning that if manual work and the intellectual capability and logic needed to complete that work is digitalised, it can be copied.

***“The problem isn't necessarily the digital world, in fact,
it's that we are creating a digital monopoly.”***

Sherin Mathew

We have now come to a point where AI is widely misunderstood due to poor adoption and insufficient training of those who interpret automated decisions. There is lack of understanding by the public, too many frameworks, and lack of a defined single regulation be it at country or global level.

“Regulating the use of intelligence should be a global requirement because loss of human intelligence otherwise will be a Global threat”.

Sherin Mathew

Our perception of new intelligent innovations has been influenced through several factors:

- It's obvious, there's is a logic and pattern. So, we create an Algorithm.
- It's a repetitive task that requires expensive resources to complete the work. So, we replace humans with automation.
- Humans make mistakes and get tired. So, we replace them with robots.
- We live in a world of convenience; to leverage resource and earn commission, so we create disruptive platforms.

Future Focused Framework – Accountable Innovation & Public Intelligence

AI based or any future innovative technology-based innovations. need to be designed with a people-centric purpose in mind. If it is not designed with a long-term purpose to benefit humans or the planet, it will not solve a specific problem. Its core purpose should not be to minimise, but to maximise human capability.

When designing innovative applications, it should be to solve problems, the solutions to which are unknown to humans. In its simplest form, if it is unachievable for humans to do it then it makes sense for a machine to complete the task. This could be where the solution to a problem is unknown to humans, for example, in medical research.

We can create innovation to accelerate the research process, where we are not replacing the scientists, instead we are helping them to solve an unknown problem using technology.

AI could be applied where a problem is so far unaddressed, such as helping to solve climate change or ensuring sustainable food production and distribution. If we can see an issue is worsening and technology could help us in the long term then we utilise it for the benefit of humankind.

AI can make lives infinitely better; however, it does raise fundamental questions about our values as humans. So, can we have one universal framework to agree and answer them all?

The simple answer is, **yes**, it is achievable. No matter how much technology evolves, we can create a framework that can act as a constant overarching guideline for any intelligent innovation to protect human rights and safeguard our future generations from social disruption.



Introduction to the Global Framework

It's time to collectively acknowledge and to take a step back from rapid innovation. Instead of reacting we need to take a proactive step towards accountable design innovations and start reversing any damage already done.

“Smart technologies, smart innovations and disruptions needs an equally smart and future-focused framework to manage them”.

We can achieve this by addressing the following:

- **HELPING REGULATORS:** To co-create policies with key stakeholders and agree to a people-driven framework to build advanced intelligence applications which utilise Artificial Intelligence and beyond. Policies and regulation are a step behind, and disrupters and tech are a step ahead which demands a proactive regulation.
- **A SINGLE GLOBAL FRAMEWORK:** that will allow implementation of technologies such as AI and Quantum in an ethical, fair, risk-free, and purposeful way.
- **WINNING TRUST:** Trust is a result of accountability; therefore, we need to help innovators with how information, data, and technology is used and designed for people with a moral code.
- **RESPONSIBLE DATA DOMESTICATION** and assistance with managing **AI Model Proliferation:** adding governance and control to protect people and businesses from applications taking advantage of data and by using intelligent innovations.
- **REVERSE THE DAMAGE:** Most of the current and active intelligence applications do not openly mention they are using intelligent tools and users are not aware that there are algorithms underneath the bonnet.
- **FACIAL ID, VOICE AND BEHAVIOUR TRACKING:** acknowledging new forms of sensitive information such as Facial ID, and Voice. Our thinking and behaviour, which can be very personal and confidential is already being used for profiling and identification purposes. Name, email and home addresses can be changed but these are real sensitive data that needs to be protected.
- **NORMALISING THE LOSS OF NATURAL INTELLIGENCE:** By heavily relying on technology, we are not asking the questions as to why a decision is being made. At a superficial level

we are accepting the decisions that are being recommended or augmented which forces us to make a quick decision for a complex task. This practice could lead into a major loss of people's intelligence.

We are facing raising public concerns with:

- Job security
- Cyber Insecurity
- Uncertainty of the future
- Climate crisis
- Lack of privacy, and misinformation and fake news
- Inequality and social disruption
- Wellbeing of public and future generation

We are living in a world of false economy and false growth, where we feel we are achieving amazing feats and marvels with globalization, digitalization, and advancement but at the price of our planet and our own loss.

“It's time to realise that its billions of people and trillions of species against one wrong innovation.”

Sherin Mathew

Therefore, a global framework is needed that becomes a tool and a means to standardise technology and to provide clarity, and not to further fragment the regulations and ethical practices.

We have designed a global framework can be summarised by five overarching principles of Advanced Intelligence.

The following principles form the basis of the Public Intelligence framework:

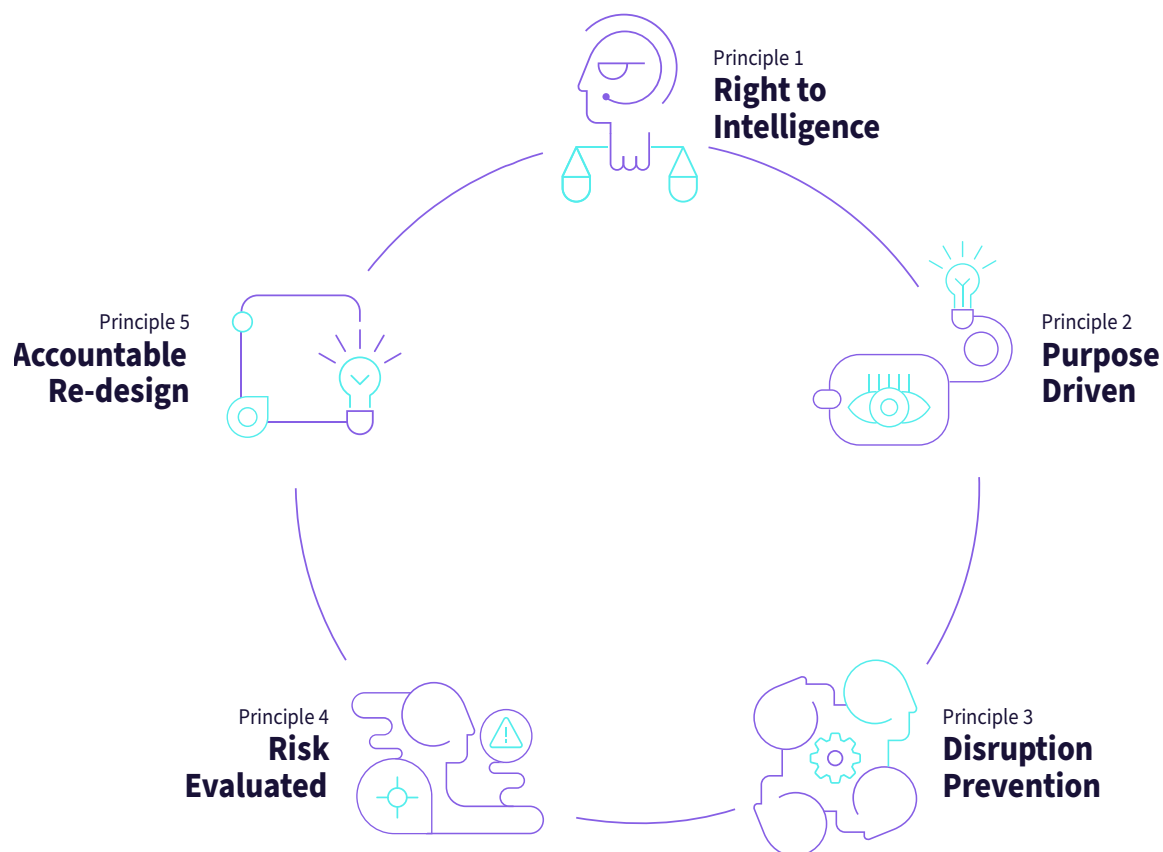


Figure 1- 5 Principles: Right to Intelligence, Purpose Driven, Disruption Prevention, Risk Evaluated, Accountable Re-design

Principle 1 - Right to intelligence



The right to protect human intellectual capabilities from being displaced by intelligent innovative systems.

Why do we need it?

The skills we each develop come from our personal learning. As babies we learn to eat and walk. As children we learn to communicate, be it through reading, writing, braille, sign language, or sound.

Lifelong learning is where we continue to gain knowledge and further develop our skills and behaviours from new experiences and our own perceptions of life. This learning can occur through structured learning in a traditional classroom environment, online, or from our personal life experiences and interaction with other humans. As we develop our intelligence, we become “experts” in our own right. But what is an expert? The Collins dictionary defines an expert as “a person who is very skilled at doing something or who knows a lot about a particular subject”. This could be as a homemaker, who bakes the best homemade bread using a secret recipe passed down through generations, a teacher, who knows from experience when to intervene to help a pupil or a scientist influencing and informing the development of COVID vaccines.

Each human being is unique and has their own set of skills, be it from making a pizza or driving a bus and over time they gain more and more experience, which increases their IQ.

As mentioned, we have rapidly innovated over the past few decades. New technologies can come at the price of a loss of natural intelligence. Are we now sleepwalking into a new problem, where everything can be done by the click of a button? If so, what happens to your skills and intelligence that you have worked hard to develop over many years?

Any new form of advanced Intelligence (AI) replicating human behaviour should belong to “people”.

The new intelligence revolution is increasingly mirroring human intelligence, if we let it continue without any controls then these unregulated innovations and practices will continue to grow causing large scale damage to our society and planet, leaving “people” with little to no choice in how they live their lives.

Rights to Intelligence



A core problem with the idea of protecting a “right” of Human Intelligence is that no such “right” is publicly or legally recognised; rather, the law commercialises profit from innovative design. This does not protect the “traditional” ways of doing things, from change and new approaches.

So, as the regulation of Artificial Intelligence, in favour of human rights, is not looking hopeful at this moment in time, there is a very real risk that economic gains for profit will trump real consideration of human dignity.

Nonetheless, history has shown us through some significant legal revolutions, such as the abolishment of slavery through the ages and over 100 years ago women started to be recognised as being competent to vote; however, the fight against racist attitudes and practices is still very much on-going but great strides forward have been made; gay relationships have gone from being abhorred to legally recognised and celebrated within a couple of decades.

Progress happens even when it feels like it is going against the odds. So, it is with AI, robots, and the risk of a dystopian future ruled by unruly algorithms. It is all capable of being regulated. We just need to make it happen.

Public Intelligence could be the next human rights or legal revolution.
Abigail Holt

What is the Solution?

In a world of new advances, we need to ensure we safeguard public intelligence.

Any advanced intelligence system replicating human behaviour should belong to the human agent. Because without human intelligence, machines wouldn't be able to mimic this capability.

The intelligence originates from humans and is owned by humans. Humans should have the authority and grant permission for an intelligent technology to act on their behalf or impersonate. The moment this right is taken away from humans, human have effectively lost their control of being.

The right to intelligence invokes a practical and logical reasoning process to ensure that every innovation is:

- Identifying the source of intelligence.
- Acknowledging the ownership of the intelligence.
- Seeking approval from the key stakeholders who will be impacted the most.
- Taking accountability of the risk, purpose, and design of the new intelligent systems.

Positive Impact:

Systems mimicking intelligence behaviours should comply, honour, and augment decision making and should not override or replace human skills. Also, the approach ensures the designer and user are equally accountable for the innovation.

If human Intelligence is to be augmented, then we need to:

- Identify what this innovation is trying to achieve. If it is replacing a human's intelligence, it should be approved by the intelligence owner and subsequently owned by the intelligence owner.

If human intelligence is to be replaced, then we need to:

- Understand why we are creating this technology. It needs to be recommended through research or learning to help in our everyday lives in a purposeful way.
- This approach will allow us to really understand why we are using AI to assist humans.

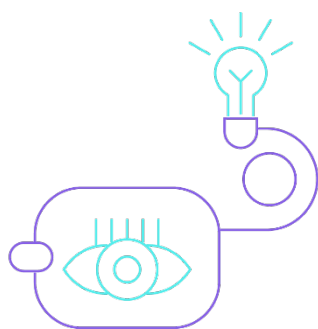
If the innovation is a completely new capability, then we need to:

- Understand the long-term consequences of introducing this new innovation. We must experiment, research, learn, and complete a long-term risk assessment before introducing into our ecosystems.

***“Advanced Intelligent systems should not minimise,
but instead maximise people’s capabilities.”***

Sherin Mathew

Principle 2 - Purpose Driven



Purpose driven design to augment people's current capabilities, innovation should solve unexplored and unaddressed problems thereby ensuring innovations add value.

Why Do We Need It?

We are blindly accepting the purpose of apps designed by a profiteer. We are forced to accept the terms and conditions of the software we install or apps that we use. Free software on installation, often, will breach the scope of consent provided and install data collection plug-ins, and even third-party plug-ins, leaving the user with no choice. We currently don't have any criteria for new apps to consider the disruption, addiction, or enslavement. We need to consider the consequences - it shouldn't just be about profit.

“Just because it's possible with technology doesn't mean it's the right thing to do.”
Sherin Mathew

Airplane tickets, hotel prices, and the stock market are a few examples of where algorithms underneath the hood are playing a key role in dictating the outcome. When a well-known tourism company declared bankruptcy, the algorithms of competitors increased the flight prices by 300-400% based on the demand. Technology is being used to control the market, influenced by algorithm and tracking cookies. This also explains why your flight prices will increase within two days of your last search.

We could argue that the cause of this is not the market but manipulation of market, or the lack of transparency. This distinction is important. When the market fails, as it often does, due to it not being regulated or when it is manipulated even if regulated.

We are sleep walking into data domestication and digital monopolies, resulting in multimillion industries all running on harnessed intelligence.

We need to question: What's the purpose of Dancing Robots? What's the purpose of Holographic or Fake AI News Readers?

All the while, as novel products take on functions that individual trades, or groups of humans or individuals used to do, such individuals and communities lose the *raison d'être* previously connected to those activities; young humans are not always taught new, replacement skills; not

everyone has the capacity to retrain; the lives of groups and individuals' risk being turned “up-side-down” very quickly.

What is the Solution?

Advanced Systems should aim to solve the unaddressed and unexplored problems, adding unique value.

Asking ourselves the big question or reminding ourselves every time we begin the design process of these systems.

What is the Purpose?



Augmentation



Automation



Novel Invention



Experimentation



Modernisation

- **Experimentation** – to solve unaddressed problems and explore the unknown. We must also research and test, to fully understand the capabilities and consequences of new applications.
- **Augmentation** – the AI may assist with decision making but will not replace a human, who will use their intelligence to make the final decision.
- **Supervised Automation** - the AI will make decisions by itself but there is always a human supervising with the ability to correct automated decisions.
- **Remote Control** - Remotely monitoring a mostly automated process.
- **Full Automation** – the AI will independently take decisions by itself without any human supervision.

Recently, governments, corporate organisations, and small to medium businesses have proposed guidelines, principles, and charters on what constitutes ethical AI. These principles provide guidelines to different stakeholders in the design, development, operation, and use of AI systems. However currently, as previously identified in this report, they are not embedded in the law. A set of common re-occurring themes are:

- AI should not be **used to harm or kill any human** and should respect **human rights**.
- AI systems must always be **fair, unbiased, and transparent** in the decision-making process.

- AI systems and solutions should always operate **within the law** and have **human accountability**.
- **Data Governance and Data Privacy** should be incorporated into the AI life cycle.
- Humans should always know when they have **interactions with an AI system**.
- **Human-centered AI design** should be undertaken.
- Appropriate levels of **explainability** should be provided on AI decision making.
- Humans must always be **in the loop** when an AI is making a decision that effects other humans.
- Humans responsible for designing, developing, and operating AI systems should be **competent in the skills and knowledge required**.
- AI systems should be **inclusive to all**.
- AI systems should be **sustainable and work to benefit humans, the society, and the environment**.

AI should be used to benefit society and provide solutions to unique problems and, at the same time, align to an ethical charter. To have a purpose, the use of AI should be in a context that should be understood by all. More importantly, the understanding of how AI works and how decisions are derived should be understandable by everyone regardless of educational attainment. Explanations of decisions made by AI should be clear to everyone in the lifecycle of the system as only then can we have true accountability. However, as a society we have a long way to go to achieve this and empower people through providing appropriate education for all.

Purpose needs to be clearly defined at the management level of any organisation and precisely communicated to algorithm developers.

Ana Chubinidze

Without context, developers have no incentive to consider the various dimensions of the algorithm such as bias, fairness, or explainability: as long as the algorithm performs reasonably well technically, developers will not look further.

AI ethics principles should not be only a paper, it must serve the role of everyday guideline to the developers and the whole team working on AI product. But without knowing the purpose of AI product, it would be near impossible to refer to such guidelines. Answering ‘why’ questions is important. It reveals values of the organization, determines the direction of goals, and gives employees responsibility and meaning to their work – hence they perform better^[1].

Positive Impact:

“Intelligent innovations should be purpose driven to solve the unaddressed, or unexplored problems.”

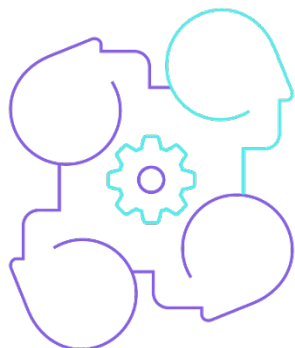
Sherin Mathew

AI should always be designed with a purpose in mind. Its core purpose should not be to minimise, but to maximise human capability. AI developed for the unknown or for high-risk scenarios should always be human controlled. Advanced innovation should be designed to overcome challenges in the discovery of new ways to improve our lives.

Experimentation and exploration are good for the research process. Doing the same in the real world may expose users to many risks. The purpose of the algorithms that are deployed for the use of millions of people in their daily lives should be clearly determined and if deviations from the purpose is noticed, it needs to be proactively addressed. Without purpose, success metrics, or deviation thresholds, it is impossible to define failure, not mentioning remediation.



Principle 3 - Disruption Prevention



Measures for displacement protection should be in place to minimise social disruption by taking measures to create seamless and sustainable innovations for existing ecosystems.

Why Do We Need it?

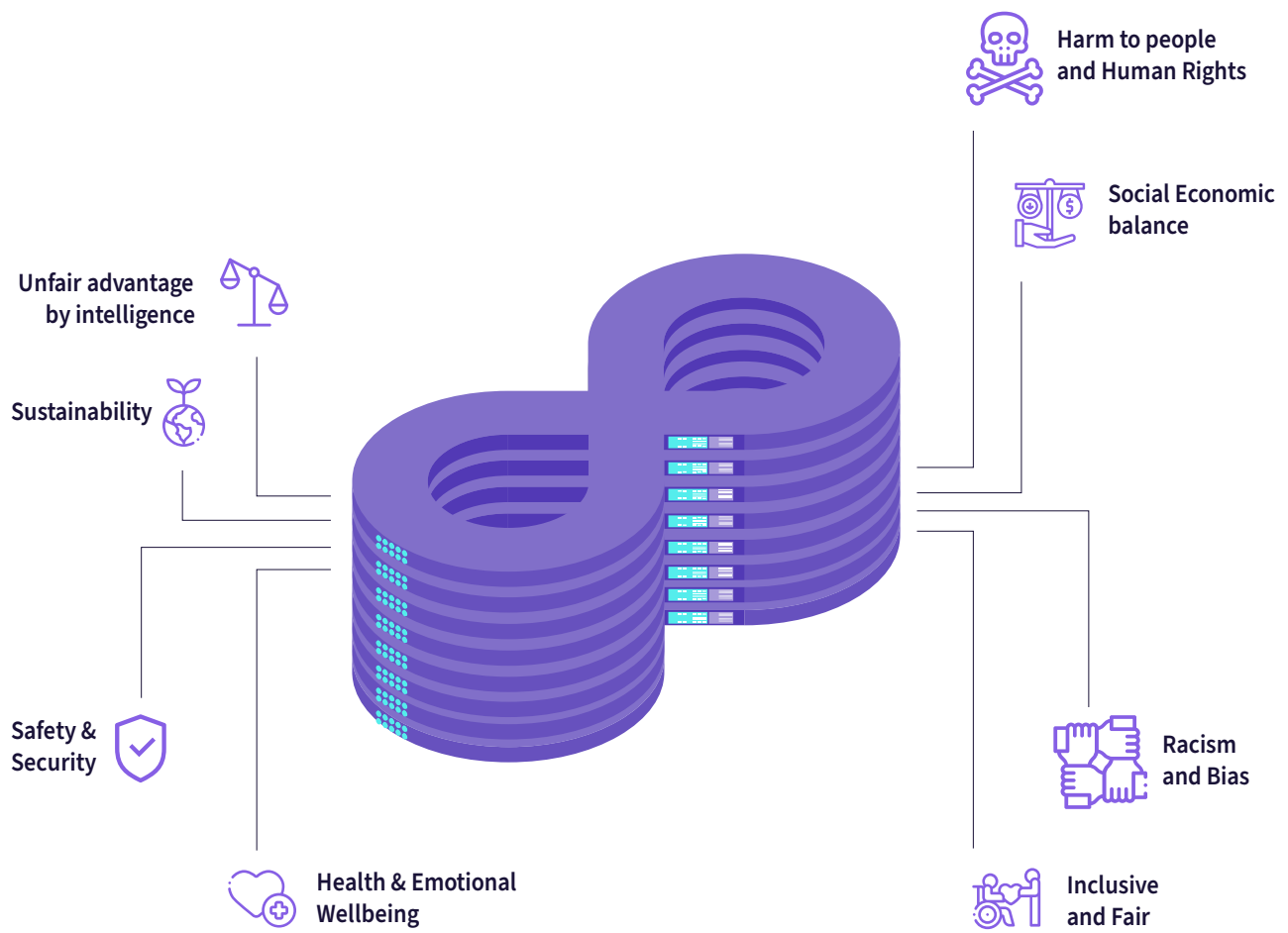
Imagine this scenario, a Taxi Driver is picking up a working couple from their workplace. Along the way they pick up nice fresh pastries from their friendly local bakery, waving at Dave the neighbouring farmer along the way. This is your ecosystem, and this experience could disappear with widescale adoption of Driverless Cars, Virtual reality teaching, AI management, and online recommended shopping.

This is not just job loss, its skills loss, not just virtual engagement, its loss of human interaction. It impacts the way we live around our existing system.

What is the Solution?

Preventive measures to create consistent and sustainable innovations for our existing ecosystems. We can achieve this by considering:

1. **Speed** – How quickly products are innovated and launched controlling this process and allowing people and our eco system to adapt.
2. **Scale** – How many people across the globe will this innovation impact, positively or negatively.
3. **Skills** - How can we make sure we support upskilling and maintaining jobs.
4. **System** – Which institutions, organisation, and industries will be impacted and disrupted due to this innovation.
5. **Society**- What is the impact on society, family life, livelihoods, etc., considering every aspect to life as we know it with this innovation and asking whether it will disrupt our ecosystem.
6. **Sentiment** – How will this impact people's lifestyles, emotional wellbeing, and social interactions.
7. **Sustainability** – Considering the amount of waste generated with this innovation and the impact this will have to the planet. Asking will this innovation have a detrimental impact on the surrounding biodiversity.



Positive Impact:

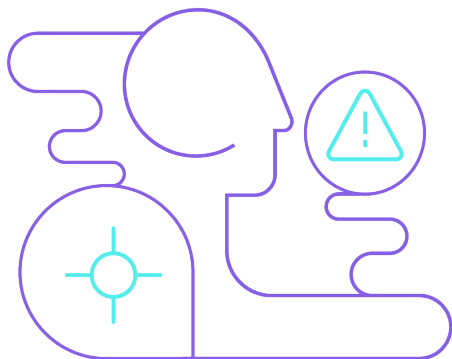
“An Advanced Intelligence system should be designed with a balanced, people-centric, environment friendly purpose to achieve beneficial and sustainable results.”

Sherin Mathew

Because technology today is designed for several purposes; experimental, research, augmenting human capabilities and in some cases, replacing humans, we need to consider the risk that comes with innovation and the impact it has, always asking the question will it have a detrimental impact on humans.

Principle 4 - Risk Evaluated

To reassure innovations are designed for safe, ethical, and inclusive adoption, and the risks are managed by the designer and the user equally.



Why Do We Need It?

With every new innovation we must thoroughly evaluate the business/personal disruption. For example, the AI Stock Market crashing and anomalies are a by-product of algorithm trading (60-70% of stock marketing trading is algorithm).

One of the major stresses of everyday living today is due to technology. New products, apps, and innovations are pouring at us and we are literally drowning in them. Big brands are automating their warehouse's without considering the people.

Privacy and personal information are being breached by companies using CCTV and digital tags to monitor how much work you are doing and how long you are taking for toilet breaks. Large supermarkets with regular clientele can predict your next purchase, and profile your salary, marital status, kids ages and even your sex life.

Every organisation deploying AI solutions should have relevant risk assessment metrics in place - both qualitative and quantitative. Risk assessment is needed for proactive identification and mitigation of risk scenarios rather than addressing them reactively. It is always harder and inefficient to remedy the issue after escalation and especially if the harm has been imposed. Some of the damage might not even be reversible and amendable, for instance those related to physical safety and health, mental health, wide societal influences, political impact, and many others.

Over recent years, technology driven by AI has been developed and embedded into the lives of the general public, without assessing the risk to the individual and to society. The development of self-driving cars, the use of face recognition software, and drones have led to increased security and privacy concerns among the public. Governments are starting to listen but to date, there is not many regulatory frameworks.

To date there is no universal democratic regulatory framework for AI, there is no rights to human intelligence, and there is no moral code for ethical innovation.

Aspects of transparency, bias, unfairness, discrimination, accountability, data privacy, and impact on workers are covered in aspects of EU legislation. This includes the Charter of Fundamental Rights of the European Union where the need is to protect fundamental rights in the light of scientific and technological developments.

The General Data Protection Regulation (GDPR) 2018 states the rights of an individual should not be subject to automated decision-making, such as profiling, unless explicit consent is given. In any aspect of automated decision making, the individual has the right to either opt out or be provided with an explanation of how the automated decision was reached. This would be achieved through disclosure of “the logic involved”. When profiling, the data controller should use appropriate mathematical and statistical procedures and that data should be accurate (free from bias) in order to minimize the risk of errors. It is the responsibility of organisations to safeguard individuals.

2020 was the year that Governments around the world published their own white papers on the need for regulation of AI to build trust through an assessment of the risk posed by AI. As a snapshot: In Feb 2020, the EU published a white paper “On Artificial Intelligence - A European approach to excellence and trust”. The first real steps to building an Ecosystem Of Trust determined that a regulatory framework was required to mitigate the risks associated with AI.

The EU’s Special Committee on Artificial Intelligence in a Digital Age (AIDA) which led to three AI focused reports and associated recommendations on AI being adopted in October 2020; including the establishment of a framework of ethical aspects of artificial intelligence, robotics, and related technologies.

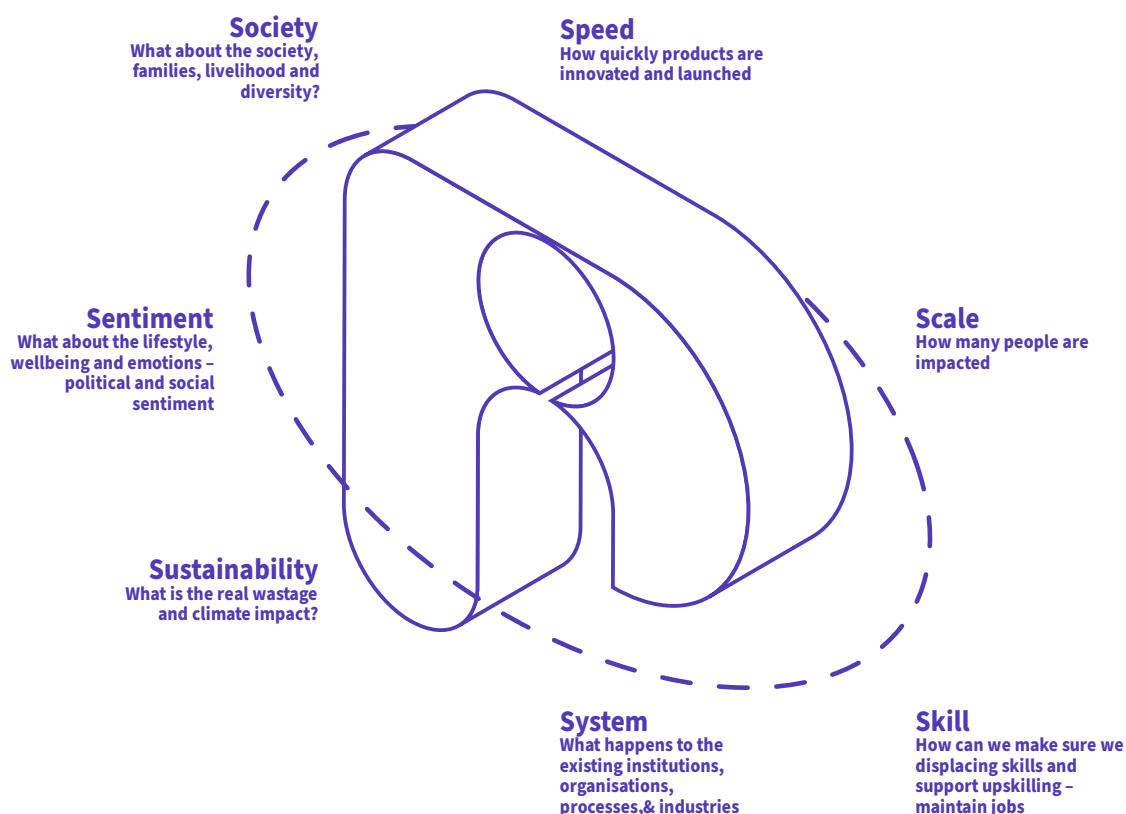
The first proposal for a regulation framework by the EU has been release in April 2021 as planned, sharing a vision of what AI regulation might look like in the coming years. In June 2020, New Zealand stressed the need for a national open conversation to gaining a social license for AI and in July proposed an Algorithm charter for Aotearoa New Zealand. In December, the US Government issued an executive order on Use of Trustworthy Artificial Intelligence in the Federal Government.

In the UK, The Information Commissioners Office, published two sets of guidelines for organisations developed with the Alan Turing Institute. The first explaining decisions made with AI, which was designed to give businesses practical advice on how to explain different elements of AI, such as processes and decisions, to anyone who may be affected by them. The second, Guidance on AI and Data Protection, stated for the accountability principle to ensure that

organisations were accountable for demonstrating the compliance of any AI system and to show that risks had been considered and mitigated for. The newly published (Feb 2021) Toolkit for organisations considering using data analytics was made available to support businesses. In January 2021, the UK AI Council published a Road Map which emphasised that trust in AI cannot be achieved until everyone in society has full confidence in the actual tech, governance, and regulation. The 16 recommendations made by the Council are a move in the right direction.

What is important is that the risk of existing and new applications of AI need to be evaluated. We cannot wait for regulatory frameworks. Organisations and businesses should start evaluating risk now and incorporate the citizen voice when doing so. This will, however, require investment in upskilling everyone in society, so they are empowered to truly understand the risks and implications of AI.

Top risks to be evaluated for new innovations



What is the Solution?

Reassuring the public that innovations are designed for safe, ethical, and inclusive adoption.

Risk assessment tools and frameworks are not a nice-to-have but a must-have. Digital technologies have become the part of our everyday life, more correctly, part of us.

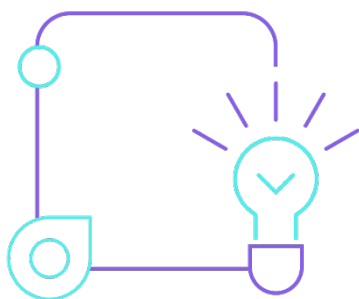
Human-to-machine interactions have become interactive meaning that we influence each other - we teach algorithms more and more about ourselves and algorithms respond to us accordingly. This increasing interdependence generates more and more risks for toxic influences on humans. Without trying to identify potential risks and impacts, millions of users across the world both individually and collectively will increasingly fall prey to the algorithms. We have witnessed more than enough examples in the last several years to be concerned.

Positive Impact:

***“We cannot wait for regulatory frameworks.
I believe organisations and businesses should start evaluating risk now
and incorporate the citizen voice when doing so”
Keeley Crockett***

Because AI gets abused by big corporations by mass-producing intelligent systems without consideration to the people who do the job, how do you control the emotional, social and financial impact by such innovation? If any risk is identified to the users and stakeholders, it should be shared between the innovator and the owner equally. Only then, we will be able ensure fair accountability is upheld and the user is safeguarded from any harm.

Principle 5 - Accountable Re-design



Accountable Redesign allows every innovation a fair opportunity to be people-centric, sustainable, and accountable by ensuring the designer and innovators produce robust technology. Also, allowing existing innovations to embed accountability in their design thinking process and reverse the existing damage.

Why Do We Need It?

It is a continuous feedback process of reviewing the design and ensuring its continuously accountable, having a positive impact, delivering value and benefits.

“Trust is the outcome of being Accountable!”

*Trust is not words, not just talks, it's the
Accountable Actions that we all need to take!"*
Sherin Mathew

Accountable Redesign is a pragmatic approach to ensure innovations have a positive impact on the human rights to intelligence and all other fundamental rights, and the purpose of the innovation are consistently met. When new apps and products are designed, accountable design will ensure they align in a fair and sustainable manner right at the start. This methodology continues as fixes and corrections are made for upgrades and updates of existing applications which may be posing risk to the environment and our ecosystem without realising. Accountable redesign truly brings the balance by factoring all the principles, making it actionable with accountability.

The redesign in this context means taking actions to mitigate risk, the imbalance created in the ecosystem or any unfairness that might have happened. When we all redesign with accountably at the fore, we have a great chance to reverse any damage we might have done, whether knowingly or unknowingly. This means, innovators have to think of the design, their stakeholders, users, and the ownership of the intelligent applications and its risk. For example: Crime, military, healthcare, how they would manage shared risk. Mistakes on execution and prosecution by Drones, Robots and AI needs accountability for those actions.

What is the Solution?

By building people driven requirements for innovators to honour, we give every innovation a fair opportunity to be people-centric by design. Accountable redesign becomes the foundation for any new innovations starting from the ground up, ensuring the design starts on the right track with universally accepted and democratically generated design requirements. This in turn will help any innovator build accountable innovations and offers a full 360-degree coverage on accountability, sustainability, and people-centric design.

It also ensures when products and applications are being developed, upgraded, updated or a new release is underway, it provides an opportunity to redesign with accountability. The application of accountable redesign becomes absolutely vital to regaining trust with the public and correcting or reversing damages that have been inflicted unknowingly due to lack of these considerations.

Therefore, accountable redesign helps to guide and correct, and offers opportunities to embed accountability and responsibility in any publicly facing intelligent systems.

The accountable redesign process is transparent, and innovators can demonstrate how these principles have been adopted in their design thinking process. Public intelligence offers a step-

by-step guideline to ensure accountability is part of any existing and any new future intelligent system design, allowing the designer to publish the Public Intelligence Criteria with a trust and accountability score as a certificate.

“In the real world, we wouldn’t judge or discriminate people on the street, we wouldn’t steal someone’s livelihood or jeopardise anyone’s future or we wouldn’t damage natural beauty, so why should we act this way in the digital world?”

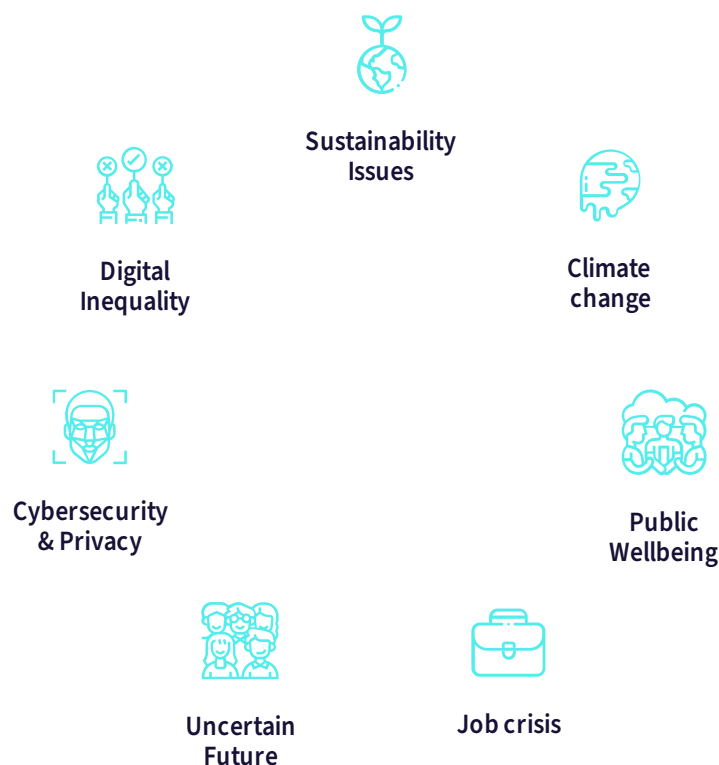
Sherin Mathew

Positive Impact:

We have the accountability for our actions to acknowledge along with the repercussions and unintentional consequences that contribute towards the global crisis and the risk we are facing today.

We know that billions of people are at risk of losing their livelihoods and this is about to get worse over the next decade or so. We know our planet is facing serious climate challenges due to extreme resource consumption and unsustainable practices. Most importantly, future generations will be under tremendous stress due to uncertainties and lagging educational systems.

Public Intelligence aims to address seven major risks we all face today. And these have also been identified in the World Economic Forum’s *Global Risks Report* and the UN Sustainable Development Goals, which are:



(WEF: Global Risk Report 2021)

When we are designing any solutions, we must take into consideration the side effects and consequences well in advance, for example, thoroughly testing a product for cyber security before launching.

We must ensure each product is designed for long term use and aim to minimise disruption. The design should be sustainable to enable reuse and have a universal acceptance to minimise waste by having compatible designs that adapt with other product makers and market leaders. For example, big technology brands accepting a universal design for adapters and chargers to minimise waste and the need to purchase further items when new products or upgrades are launched.

Everything from emails, cloud storage, or any product we create consumes resources from the planet and consequently, release emission.

When designing a new product, we should have a sense of accountability and consider how can we give back, or offset, to return the balance to any disruption we may cause.

This approach would ensure innovators contribute towards the development of people and the planet by creating or contributing towards innovation that helps solve leading global and climate problems. For example, a share of the profit made from new automations and AI systems could

be used to fund projects for climate change or empowering people to upskill and improve their lives.

Call to Action

Public Intelligence has worked over last couple of years to bring this awareness, build an open tool for public to embed ethical design practices, share the design transparently on how innovations work and also take feedback from the most important stakeholder: namely People. Public Intelligence becomes the forum to identify high-risk innovation and help innovators to conform their design transparently with the people.

There are many more tools in the pipeline that we are designing however, it will not be possible to democratise them without people's support!

Public intelligence also has the vision to establish an TechForGood Institute that focuses on deeper research and build innovations to address global food shortage, health and educational issues. Thereby, addressing climate crisis, creating new jobs and public security and most importantly, building hope for our future!

The time is now to take action to change the world of tomorrow today.

Now is the time to wake up to avoid sleep walking into blind acceptance of both existing and new technology. Now is the time to understand both the obvious and unforeseen risks.

Technology has been embedded within our society and our economy is now driven by constant innovation and while that can clearly offer great opportunities and value to both people and planet, it will only be successful if approached correctly.

Laws are made when things go wrong, policies are in place when systems fail, the big question now is:

Why should we act now?

“Society leads and the lawmakers follow! Developments in our laws typically do not anticipate such changes in society. Continuing with this tradition will curtail our ability to reign in uncontrolled use of AI, thus changing our approach now will ensure that its technology is secondary to the core preservation of human dignity and supportive of the ever more pressing goal of environmental sustainability.”

Abigail Holt

When we consider the developments in artificial intelligence, one of the very real problems is that those who design and implement artificial intelligence solutions in all walks of life are doing so in such a way that masses of ordinary people usually have zero influence or say in how artificial intelligence developments impact other areas of life; work and roles which would previously have been performed by humans and which can now be delegated to computers and robots; indeed very few of the population will ever understand the DNA of these AI based systems, namely the computer code and architecture that sits behind them.

Despite the hype, these supposedly intelligent systems are anything but and remain complex behind the scenes, put simply they are not intelligent. The promised “New World” is not “Brave”; but as we know often these systems are plagued by a maddening series of passwords, glitches, freezing frequently and often mid-communication. Regardless, humans are required to engage with and use such ‘advancements’.

As human beings, it feels, at times, like more and more of our lives have been taken over by computer programmes with which we have to interact, and we can see the creep of artificially intelligent machines of one sort another replacing people and jobs; we increasingly stay at home and navigate the outside world via screens. There is no-one, or institution, to turn to in order to influence such developments. We feel that we are being swept along by a powerful force but hesitate to call it progress when we also see the negative consequences of artificial intelligence in the texture of our everyday lives.

We need to take a proactive approach before the entire human civilisation is replaced. We are slowly losing our intelligence, culture, future, and identity to technology.

The people should approve, and drive innovations designed for the people, not the other way round. It would be disastrous to overlook the need and urgency of people’s rights and livelihoods. And there has never been a time like this where society really must stand up to take an action to protect our jobs, our planet, and our future. And this all can be done with one powerful tool that we already have, our intelligence, our rational thinking.

The products we are being sold only turn into products when people use them. Otherwise, a phone is an expensive paperweight in an unopened box. Social Media, banking, and retail apps are empty without our engagement. In an industry that is purely driven by demand, this means people have given them the power to become what we see today.

Public intelligence is a public vote to make sure all innovations are people-centric.

Empowering everyone to build accountable and sustainable futures with new innovations.

By building people driven requirements for innovators to honour, we give every innovation a fair opportunity to be people-centric by design.

Your actions will:

- Educate government and industry leaders on safe, fair, and sustainable innovation.
- Foster a global outlook for people-centric design for any future innovations.
- Bring accountability for existing and new AI systems.
- Institutionalise fairness and accountability in every innovation.
- Create tools, and an institute to safeguard people's intelligence.
- Reshape a better future.

Public Intelligence is a new concept which aims to bring awareness of our human intelligence, alongside addressing global and ethical challenges we are facing today. We must understand how we can respect our individual and collective intelligence and, in doing so, create a human right to intelligence. It is time to support the need for Public Intelligence. It is time to come together and take a democratic action to bring awareness of the right to our human intelligence. It is the most important decision that needs to be made today, for a better future for all of us.



Conclusion

This paper does not aim to state the obvious, instead we want to delve deeper into the issues and bring public awareness to all.

We spoke to various Ethics experts over last three years and asked the painful question “How can we build ethical and accountable innovations?” and the answer was - “There is nothing in place!”

From our research we realised we need an answer quickly: a tool and a simple framework for people and innovators equally to adopt and conform to accountable technology practices. We began designing the solution and over the last two years formulated the framework to be delivered through a democratic movement we have titled; Public Intelligence!

We were not alone, European Union (EU) has put forth its “[Proposal for a Regulation on a European approach for Artificial Intelligence](#),” intending to create the first ever legal framework on AI, which addresses the risks of AI and positions Europe to play a leading role globally.

A much-needed bold vision which will impact the entire world as anybody who wants to integrate with or sell AI services in the EU will have to comply to the new regulation.

For this to be effective, we will need a global public consensus and a universal framework that everyone can agree and refer to.

In the world of technology and regulatory chaos there should be only one unified People’s voice that echoes across the world. Because as it stands one wrong innovation can impact billions of people.

A people supported framework, unified and standardised in technology would become the tool of the century, providing a simple process to follow and ensuring accountability and ethics regulations are met when designing the next world changing innovation. We do not want to impact the freedom of innovation; we want to ensure we do not adversely impact the world and the people in it when harnessing the power of technology.

The evidence is clear that the side effects of advanced innovation, if left unchecked, will be detrimental to every aspect of life as we know it. We have left it too long but it is not too late. We need to bring awareness of how much of the decision-making is being transferred to these new systems, which means new system design must be made accountable.

“It’s not the tech, it’s not the tool, it’s the lack of purpose driven and accountable design that possess the real risk.”

Sherin Mathew

In this age of advanced intelligent systems, it is machines that will have the skills and decision-making power. And that decision making is what makes humans intelligent, alongside situational and emotional maturity that supports our conscious decisions.

When People support this framework, it becomes a tool and a people's institute to standardise technology and to provide clarity, and not to further fragment the regulations and ethical practices.

“Human arrogance and focussing on man-made measures of economic criteria blinds us to the joys of living intelligently and sustainably with the forces of nature. We may think that we are clever, but the current unintelligent approach to artificial intelligence appears to be the thing that is most likely to destroy us as a species.”

Abigail Holt

The Public Intelligence project is an exercise of taking a stance to tame rogue and unethical innovations and industries ; to support regulated use of artificial intelligence and protect human values and dignity; protect the soil, sea, forests, and air from thoughtless, careless, damaging innovation that takes and strips, hollows and denudes; which extracts relentlessly without respecting the need that living forces have to rest, recuperate, and regenerate, subservient to the cycles of life.

It's a step on the urgent journey to find smart regulation, including publicly endorsed laws, to maintain the proper distinction between citizens and machines. What is envisioned is far from “one-size-fits-all”. Rather, the tools of AI need to be harnessed to design of dashboard of responses, including education, understanding and re-training in AI. But also, anticipation of future and avoidance of future risks with rapid feedback loops to advise when a change of course is necessary.

There has never been a time like this where society really needs to stand up, to take actions to protect our jobs, our planet and our future.

This is our only hope, and when we act, we can have a better future for all of us.



Now is the Time!

We live in our beautiful world, in societies which exist to help us survive and work together, using the core skill that makes us human: our natural intelligence.

There has never been a time like this where society really needs to stand up, to take action to protect our jobs, our planet, and our future!

Public intelligence is a public vote to ensure all innovations are people centric. Public intelligence aims to prevent social imbalance and disruption that impacts everyone. By empowering everyone to build accountable and sustainable futures with new innovations, by prioritising people's and the planet's need, and by embedding it at the heart of every new design process.

It is time to support the need for Public Intelligence, a democratic movement to bring the right to intelligence, fairness, sustainability and accountability with technology.

Please cast your [VOTE](#) here and support the cause and be the change. Alternatively visit our website publicIntelligence.org to Vote, share awareness and support to continue our message.

Your vote and support for this initiative will determine our future!

IT IS THE MOST IMPORTANT DECISION THAT YOU WILL MAKE TODAY,
FOR A BETTER FUTURE FOR ALL OF US!



References

1. World Economic Forum, Global Risk Report 2021, 16th Edition.
http://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf (link as of 6/4/21)
2. United Nations, Sustainable Development Goals, 2015
https://i1.wp.com/www.un.org/sustainabledevelopment/wp-content/uploads/2015/12/english_SDG_17goals_poster_all_languages_with_UN_emblem_1.png?fit=728%2C451&ssl=1 (link as of 6/4/21)
3. Shaw, Matt, Billionaire capitalists are designing humanity's future. Don't let them, The Guardian, Feb 2021 <https://www.theguardian.com/commentisfree/2021/feb/05/jeff-bezos-elon-musk-spacex-blue-origin> (link as of 6/4/21)
4. PWC, Will robot's really steal our jobs. An international analysis of the potential long-term impact of automation, 2018. <https://www.pwc.co.uk/services/economics/insights/the-impact-of-automation-on-jobs.html> (link as of 6/2/2021)
5. PWC, Sizing the price. What's the real value of AI for your business and how can you capitalise, 2018. <https://www.pwc.com/qx/en/issues/data-and-analytics/publications/artificial-intelligence-study.html> (link as of 6/4/2021)
6. McKinney, Scott, Sieniek, Marcin, Shetty, Shravya, International evaluation of an AI system for breast cancer screening, 2020. <https://doi.org/10.1038/s41586-019-1799-6> (link as of 6/4/2021)
7. Brown, Shea, Davidovic, Jovana, Hasan, Ali, The algorithm audit: Scoring the algorithms that score us, 2021. <https://journals.sagepub.com/doi/10.1177/2053951720983865> (link as of 6/4/2021)
8. Inioluwa Deborah Raji, Andrew Smart, Rebecca N. White, Margaret Mitchell, Timnit Gebru, Ben Hutchinson, Jamila Smith-Loud, Daniel Theron, and Parker Barnes. Closing the AI Accountability Gap: Defining an End-to-End Framework for Internal Algorithmic Auditing, 2020.
<https://arxiv.org/pdf/2001.00973.pdf> (link as of 6/4/2021)
9. Gebru, Timnit, Oxford Handbook on AI Ethics Book Chapter on Race and Gender, 2020
<https://arxiv.org/ftp/arxiv/papers/1908/1908.06165.pdf> (link as of 7/4/21)
10. Chu, Wenjing, A Decentralized Approach Towards Responsible AI in Social Ecosystems, 2021
<https://arxiv.org/ftp/arxiv/papers/2102/2102.06362.pdf> (link as of 7/4/21)

11. United Nations, Sustainable Development Goals Report 2020.
<https://unstats.un.org/sdgs/report/2020/> (link as of 7/4/21)
12. European Commission, White Paper, On Artificial Intelligence – A European approach to excellence and trust, 2020. https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf (link as of 7/4/21)
13. Collins English Dictionary, Definition of Expert.
<https://www.collinsdictionary.com/dictionary/english/expert> (link as of 7/4/21)
14. European Parliament, Committee on Legal Affairs, Report with recommendations to the Commission on a framework of ethical aspects of artificial intelligence, robotics and related technologies, 2020.
[REPORT with recommendations to the Commission on a framework of ethical aspects of artificial intelligence, robotics and related technologies \(europa.eu\)](#) (link as of 7/4/21)
15. NZ Government, Algorithm Charter for Aotearoa New Zealand, 2020 [Algorithm charter for Aotearoa New Zealand - data.govt.nz](#) (Link as of 14/4/21)
16. The White House, Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government, 2020. [Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government – The White House \(archives.gov\)](#) (link as of 14/4/21)
17. Information Commissioners Office (ICO), Explaining decisions made with AI, 2020. [Explaining decisions made with AI | ICO](#) (link as of 14/4/21)
18. Information Commissioners Office (ICO), Guidance on AI and data protection, 2020. [Guidance on AI and data protection | ICO](#) (link as of 14/4/21)
19. Office for Artificial Intelligence, Department for Business, Energy & Industrial Strategy, and Department for Digital, Culture, Media & Sport, AI Roadmap, 2020 [AI Roadmap - GOV.UK \(www.gov.uk\)](#) (link as of 14/4/21)
20. BBC News, AI at work: Staff 'hired and fired by AI algorithm', 2020 <https://www-bbc-com.cdn.ampproject.org/c/s/www.bbc.com/news/amp/technology-56515827> (link as of 14/4/21)
21. Crider, Cori, Aljazeera, Artificial Intelligence reinforces power and privilege, 2019.
<https://www.aljazeera.com/opinions/2019/6/13/artificial-intelligence-reinforces-power-and-privilege> (link as of 14/4/21)
22. Naughton, John, The Guardian, Death by drone strike, dished out by algorithm, 2016.
<https://www.theguardian.com/commentisfree/2016/feb/21/death-from-above-nia-csa-skynet-algorithm-drones-pakistan> (link as of 14/4/21)

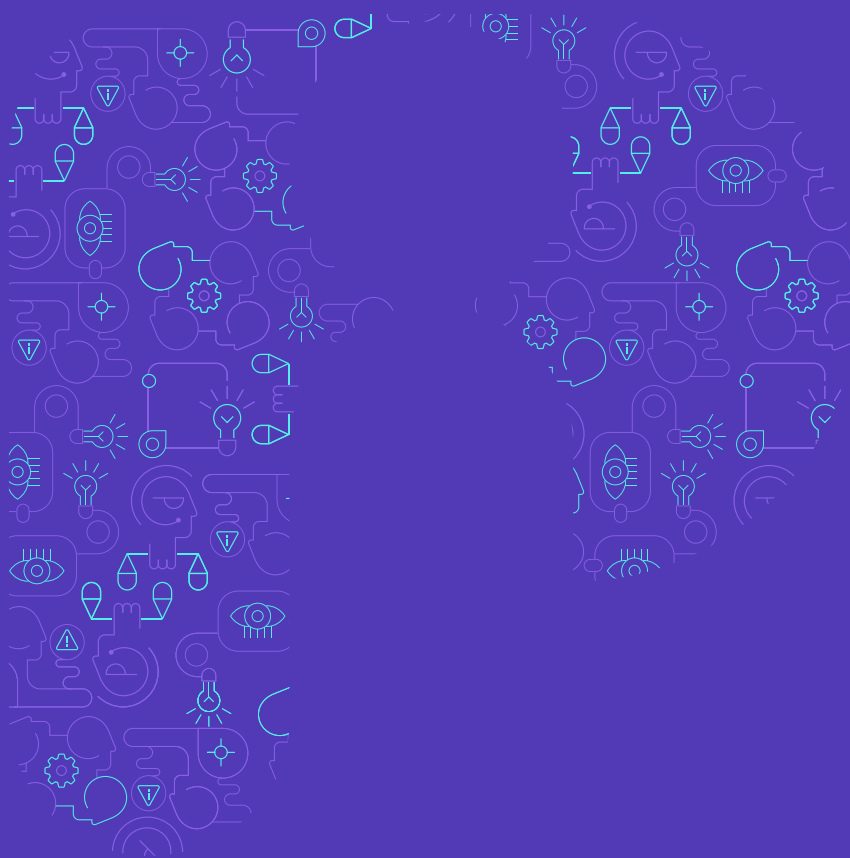
23. Harrabin, Roger, BBC News, EU brings in 'right to repair' rules for appliances, 2019.
<https://www.bbc.co.uk/news/business-49884827> (link as of 14/4/21)
24. Nkonde, Mutale, Harvard Business Review, Is AI Bias a corporate responsibility issue? 2019
<https://hbr.org/2019/11/is-ai-bias-a-corporate-social-responsibility-issue?autocomplete=true> (link as of 14/4/21)
25. O'Neil, Cathy. Weapons of math destruction: How big data increases inequality and threatens democracy. Crown Books, 2016.
26. Manneh, Elizabeth, The Healthy, your technology use is making you stupid, here's how. 2021.
<https://www.thehealthy.com/aging/mind-memory/technology-making-you-stupid/> (link as of 14/4/21)
27. www.parliament.uk, Publications, Eltronic Waste and the Circular Economy, 2020.
<https://publications.parliament.uk/pa/cm5801/cmselect/cmenvaud/220/22003.htm> (Link as of 26/4/21)
28. Aten, Jason, 3 reasons why smart technology is actually making us less productive. Inc.com, 2019.
<https://www.inc.com/jason-aten/3-reasons-why-smart-technology-is-actually-making-us-less-productive.html> (Link as of 26/4/21)
29. Reuters Staff, UK starts probe on Apple over alleged App Store monopoly, Rueters.com, 2021.
<https://www.reuters.com/article/us-apple-probe-britain-idUSKBN2AW12S> (Link as of 26/4/21)
30. Euro Parliament, Press Room, Parliament leads the way on first set of EU rules for Artificial Intelligence, 2020. <https://www.europarl.europa.eu/news/en/press-room/20201016IPR89544/parliament-leads-the-way-on-first-set-of-eu-rules-for-artificial-intelligence> (Link as of 27/4/21)
31. Kasana, Mehreen, Clearview AI's plan for invasive facial recognition is worse than you think, inputmag.com, 2021. <https://www.inputmag.com/culture/clearview-ais-plan-for-invasive-facial-recognition-tap-dating-profiles-networking-for-surveillance> (Link as of 27/4/21)
32. Mahy, Elizabeth, can we fix our way out of the growing e-waste problem? BBC News, 2020.
<https://www.bbc.co.uk/news/business-51385344> (Link as of 27/4/21)
33. Alexander, Brentan. Blackouts in Texas and California teach a hard lesson: Climate change is costly, Forbes, 2021. <https://www.forbes.com/sites/brentanalexander/2021/02/16/blackouts-in-texas-and-california-teach-a-hard-lesson-climate-change-is-costly/?sh=1f835a2a5873> (Link as of 27/4/21)

34. Wakefield, Jane. AI: Ghost workers demand to be seen and heard. BBC News, 2021. <https://www.bbc.co.uk/news/technology-56414491> (Link as of 27/4/21)
35. Douglas Heaven, Will, Forget Boston Dynamics. This robot taught itself to walk. MIT Technology Review, 2021 <https://www.technologyreview.com/2021/04/08/1022176/boston-dynamics-cassie-robot-walk-reinforcement-learning-ai/> (Link as of 27/4/21)
36. Hoa, Karen, Facebook's ad algorithms are still excluding women from seeing jobs, MIT Technology Review, 2021. <https://www.technologyreview.com/2021/04/09/1022217/facebook-ad-algorithm-sex-discrimination/> (Link as of 27/4/21)
37. Ryan-Mosley, Tate, The NYPD used Clearview's controversial facial recognition tool. Here's what you need to know. MIT Technology Review, 2021. <https://www.technologyreview.com/2021/04/09/1022240/clearview-ai-nypd-emails/> (Link as of 27/4/21)
38. Moore, Mike, what is Industry 4.0? Everything you need to know, 2020. Techradar.com. <https://www.techradar.com/news/what-is-industry-40-everything-you-need-to-know> (Link as of 29/4/21)
39. Harvard Business Review, Inspiring Innovation, 2002 <https://hbr.org/2002/08/inspiring-innovation> (Link as of 4/5/21)



Public Intelligence

Empowering Accountable and Ethical Innovations.



Author

Sherin Mathew

Contributors

Abigail Holt
Keeley Crockett
Ana Chubinidze
Nenad Rava
David Young

Editors

Elaine Feeney
David Young
Parisa Murtza
Stefan Janusz
Claire Taylor
Sam Datta-Paulin



Public Intelligence Organisation a not-for-profit company registered in England and Wales .
Company Number: 13427515. Registered address is Kemp House, 160 City Road, London, EC1V 2NX. UK
© Copyright - Public Intelligence Organisation. All rights reserved. info@publicintelligence.org

Published
June 2021



This work is licensed under a [Creative Commons](https://creativecommons.org/licenses/by-nc-nd/4.0/)
[Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).