**REGULATION OF ARTIFICIAL INTELLIGENCE**

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**RESEARCH PAPER**

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**ABSTRACT:**

AI is a new digital frontier that will have a profound impact on the world. It will have enormous technological, economic, and social consequences and is going to transform the way we produce and distribute goods and services, as well as the way we work and live.

In this era of advanced technology, Artificial Intelligence has gained popularity. Along with being a blessing for the generation, it has posed serious challenges to the Intellectual Property Rights including both Patent and Copyright. This Article highlights both sides of Artificial Intelligence and the relation with various aspects of legal development. Technology has now become an integral part of human life. It has come up to make life easier and comfortable. Artificial Intelligence systems have sophisticated software enabled in them which lets them do almost every task- either simple or complicated. With the growth of new technologies, the need for creating more laws has been witnessed. This article also clearly states the answer to the question that the Artificial Intelligence which can lead to new inventions and even creative works which bring into light whether such works should be granted Patent Rights and Copyright like it is granted in the case of human beings.

India is marching forward to become a leading hub for innovation, research, and development, with an increased focus on digitization and internet connectivity for its population of 1.3 billion. The internet economy is expected to contribute 7.5% to India’s GDP by 2021 and the share of digital technology investment, such as artificial intelligence, machine learning, cloud computing, internet of things, and many other emerging technologies will rise from 35% in 2020 to 60% in 2025.

AI depends on the gathering of data, automatically making it an issue that needs regulation. While India has been vocal about the use of AI in various sectors, it is far from regulating it. This Article depicts the veracity of aspects related to artificial intelligence, government initiatives, and various technical limitations of AI systems which should be reckoned with a time of developing policies.

Key Words: Artificial Intelligence, Regulation, Government Initiatives, Promotion, NITI AAYOG.

**INTRODUCTION:**

India, being the fastest growing economy with the second largest population in the world, has a significant stake in the AI revolution. Recognizing the potential of AI to transform economies and the need for India to strategize its approach, in his 2018-2019 budget speech, Honourable Finance Minister mandated NITI Aayog to set up the National AI Program to guide research and development in new and emerging technologies. In line with the above, NITI Aayog has adopted a three-pronged strategy – to pursue exploratory proof-of-concept AI projects in different areas, to establish a national one methodology to create a vibrant AI ecosystem in India and to collaborate with different experts and stakeholders[[1]](#footnote-2).

AI refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem-solving, and decision making. Initially conceived as a device capable of mimicking human intelligence, AI has grown to ways well beyond its original conception. With incredible advances made in data collection, processing, and computation power, intelligent systems can now be deployed to take over a variety of tasks, enable connectivity, and enhance productivity. As the capabilities of AI have grown significantly, so has its usefulness in a growing number of fields.

Artificial Intelligence (AI) is an emerging focus of Indian policy development. The regional influence of the country, the burgeoning AI industry, and the ambitious government initiatives around AI make it a significant jurisdiction to consider. While existing policy mechanisms aim to promote the rapid development of AI for economic growth and social benefit, there is an overarching trend in India and several other jurisdictions: the limitations and risks of data-driven decisions remain retrospective considerations for developing and deploying AI applications.

Billions of dollars are collected and spent on creating new, AI-based goods and services. While AI has begun to impact our lives, e.g. through data analytics that can predict our preferences, dislikes, purchasing habits, etc., the technology is still in its infancy, however. It is creating innovative items such as driverless cars or new approaches to diagnose and treat illnesses.

Despite these radical changes, the question of controlling AI has been posed by some very senior industry leaders. It is seen as an immensely beneficial and risky technology. The apprehensions stem from repeated associations with nuclear energy and nukes. There have been reports of concerns that AI's directing arms systems may be frightening. Other ways to abuse technology will also have disastrous consequences. However, there are no public domain proposals from AI developers about the regulatory agenda, particularly the big tech companies.

**ARTIFICIAL INTELLIGENCE:**

AI could just be the single largest technological revolution of our living times, with the potential to disrupt almost every aspect of human existence. Andrew Ng, the co-founder of Coursera and former head of the Baidu AI Group / Google Brain, compares AI's transformative impact to that of 100 years ago electricity. With many companies investing actively in cognitive and AI technologies, global investment is forecast to reach a compound annual growth rate (CAGR) of 50.1 per cent in 2021 to reach USD 57.6 billion.[[2]](#footnote-3)

AI is a constellation of technologies that allow machines to act with higher levels of intelligence and emulate sensory, comprehensive, and acting human capabilities. So, computer and audio vision processing can actively perceive the world around them through image, sound, and speech acquirement and processing. The natural language processing and inference engines allow AI systems to analyse and understand the collected information. An AI system can also take action, or take action in the physical world, through technologies such as expert systems and inference engines. Such human capacities are further reinforced by the ability to learn from experience and continue to adapt over time.

However, irrespective of the type of AI being used, each program starts with large quantities of training data. In the past, this kind of performance was powered by rules-based data analytics programs, statistical regressions, and early "expert systems," but the proliferation of powerful deep neural networks is now giving AI something that a pure machine doesn't have: the potential to do the unexpected.

**BACKGROUND:**

There have been various theories on what should be true artificial intelligence, but only recently has advanced AI technology begun to call into question legal standards about human authorship. Early AI work experienced difficulties that emerged in part because of the implicit notion that to be "artificially intelligent," a system needs to process information so that the outcome resembles how an intelligent person will respond to similar data.Because of this focus on producing ‘human-like’ performance, numerous official AI projects formed to create machines capable of performing tasks requiring ingenuity of human nature.[[3]](#footnote-4)

During the Second World War, Computer Scientist Alan Turing worked to crack the 'Enigma Code' used by the German Forces to send messages securely. He and his team created the Bombe machine used to decipher Enigma's messages4. The Enigma and Bombe machine acted as the seeds of machine learning.

Alan Turing recognized a machine to be intelligent if it could converse with humans without the human being able to know that it is a machine. The term 'artificial intelligence' was first adopted at the Dartmouth Conference in the year 1956 organized by Computer Scientist John McCarthy. After the Conference, this topic became popular and a lot of research was done about it.

In the year 1951, Ferranti Mark 1, a machine used an algorithm to master checkers. General Problem Solver algorithm was developed by Newell and Simon to solve mathematical problems. John McCarthy also developed the LISP programming language which was considered important in machine learning. During the late 1960 focus was made on Machine Vision Learning and developing machine learning in robots. The first intelligent humanoid robot was built in Japan in the year 1972. From the middle of 1970 to the middle of 1990, there was a shortage of funding for Artificial Intelligence research. So these years are known as 'An I Winters'. With the coming of the late 1990s, Artificial Intelligence again became a major topic of research. Funds were provided for its research. Corporations and Governments started using machine learning methods in narrow domains. The present generation is using Artificial Intelligence in almost all spheres and the future generation would be the AI Generation. However, such vast use of Artificial Intelligence systems can also pose various challenges to the generation.

The Indian AI industry has seen growth in this time [2012–2017], with a total of $150 million invested in more than 400 companies over the past five years, according to a study published by the Brookings Institution. Many of these investments came in the last two years, as investment almost doubled from $44 million in 2016 to $77 million in 2017.[[4]](#footnote-5)India currently lacks regulations or guidelines provided by the government to regulate AI. Alternatively, in 2018, the government developed a set of national AI-related policies or road maps.[[5]](#footnote-6)

**REGULATING THE USE OF AI: NEED OF AN HOUR:**

AI is reliant on data collection, making it an automatic problem that requires a regulation. To train an AI program any organization would need large quantities of data, so how it acquires the data must be controlled. When AI is put to use it is an even more direct threat to privacy. Face recognition, for example, maybe used for mass surveillance. AI algorithms are typically designed for specific tasks but they can deviate from their desired behaviour if left unchecked. For example, when two Facebook chatboxs were able to communicate with each other in any way they wanted, they developed their language.[[6]](#footnote-7)Pichai isn't the first major name in tech to seek AI regulations. Elon Musk, leader of Tesla and SpaceX, has been outspoken in the past on the need to control AI many times. Musk also said that “It’s too late when we're reactive to AI regulation.” Microsoft President Brad Smith is another influential tech individual who has called for AI regulation. Pichai, in his editorial, argued that AI should be regulated, keeping in mind both the harm and social benefits that the technology can be used to. He also said that governments should be compliant with the regulations around AI for “making global standards work”.[[7]](#footnote-8)

AI is a buzzword in nearly every area. Smartphone manufacturers are selling AI-driven cameras while policymakers have tried to reap the benefits of AI in different areas. All use cases must be taken into account in the Regulation. The use of AI in policy, healthcare, law enforcement, etc., is more invasive than, say, enhancing the imaging capabilities of a phone camera. [[8]](#footnote-9)

*India’s stand on regulations:* Though India has been vocal about using AI in different sectors; it is far from controlling it. A paper from NITI Aayog in 2018 proposed five areas where AI could be of use. The think tank also noted in that paper the lack of control around AI as a major weakness for India. While presenting the Union budget for 2019, Interim Minister of Finance Piyush Goyal said the Centre was preparing to introduce a national AI system. Though India’sstart up ecosystem has created multiple products using AI, we still do not have principles to govern it.

***Government’s Legal Role: Artificial Intelligence Promotion and Enforcement:***

The introduction of digital technology is generally believed to have increased the standard and quality of life around the globe. Many countries have gained more by being home to some of the most productive technology companies in the world, and also by building an economic eco-system that will position them for more growth and supremacy. This is expressed in the recent EU-published paper on Artificial Intelligence, where development status in the EU was contrasted with that of China and the US.Some analysts have said the growth of the internet comes from being accessible and safe. This has empowered and motivated entrepreneurs and innovators to invest, take risks, and grow consumer products and services. One point of view is that not controlling it is a good way to ensure AI develops.

While AI development's application and challenges are global, countries' regulatory approaches vary. For example, the EU has taken the lead in formulating and enacting a comprehensive regulation on worldwide data use and privacy. In comparison, the US is viewed as a country that embraces the concept of controlling light contact.Some countries are in the process of drawing up guidance documents as general governance concepts. Another alternative to this is to follow a more ex-post reactive approach and build on-the-go control as responses to real interactions. The trade-off is between addressing the potential harms vs. potentially stifling these technologies' development.The latest controversy about the program for facial recognition represents the dilemma. It has invested money and time designing and deploying these technologies. There are, however, questions about the intent and protection of its use. Some jurisdictions have banned the use of the device for facial recognition.[[9]](#footnote-10)

***Concept of Liability:***

The challenges posed by machines and robots are essentially the same as those faced by humans who already have regulatory structures in place. For example, producers, dealers, suppliers, and retailers are held liable under consumer protection laws for any damage the goods may cause. In some jurisdictions, if a product or any of its parts are found to be defective, manufacturers may be liable for damage (death, personal injury, or damage caused to private property). Possibly, some of the current liability laws and regulations may be implemented with or without necessary changes to alleviate any apprehensions/risks resulting from AI implementation.Under consumer protection legislation, one of the conditions in which the producers are often not held liable is that there was no fault when the product was placed into circulation. The problem as to whether the flaw is due to the way a product was constructed or how it was used is due to that.

This raises the question of assigning liability to an AI program in the event of damage. Ideally, this would be the same as what a human being should expect. For example, a driver causes an accident, and he will be responsible for it. Likewise, a driverless car that causes an accident should also allocate liability for predictable accidents. The more questions here will be:

1. Distribution of this responsibility among the technology creator, the car owner, and any third-party user/operator.
2. Giving computers and robots identical to human beings’ legitimate personality status under the law.

***Legal Personality for AI Applications[[10]](#footnote-11):***

AI applications' unpredictability is usually viewed as the biggest challenge when controlling AI. This stems from automation's unpredictability. AI applications can take decisions or lead to results that are beyond the reach of the application's design or operator’s instruction.

Hence, a question raised is whether certain types of AI applications have a legal personality that is distinct from their creator or operator. Such a concept was used in the development of companies that own assets and bear liabilities other than their shareholders, managers, and employees.This system promoted greater economic risk-taking and higher rates of economic activity as a result.

Nevertheless, it should be kept in mind that if a corporation indulges in illegal activity, then it is also held responsible for this by its staff and administrators. Even if AI were to have an autonomous legal identity, some of the liabilities would need to move back to people involved in its design and implementation, particularly as a result of criminal activity. There is a small difference that also occurs here that where companies are fictitiously independent, AI can be fully autonomous. AI’s capacity to execute contractual arrangements is closely related to this.

To integrate these forms of contracts, current contract laws and IT laws will need to be brought up to speed here. Then, if a distinct legal personality was to be identified, there are issues like nationality to be given to a robot. Sophia here comes to mind the Saudi Arabian Humanoid. As of writing this document, there are no concrete proposals on the table to provide AI applications with a distinct legal identity. Instead, current consumer rights, contracts, and IT regulations can be navigated to provide the best possible options for AI functions.

***Promotion and Operation of AI applications:***

EU recent AI paper argues that data should be the raw material for AI applications operation and planning. Asymmetry in current access and title to data has been described as a core problem for all future AI developers. This is a competitiveness problem in a way and the question is whether there are major barriers to entry for the production of some of the applications and how this can be resolved. Comments on the same impact were made in the draft e-commerce policy released by the Government of India.

Similarly, there are issues related to IP rights for different algorithms that are being developed, and how regulators' attitudes when evaluating IP applications affect small players' ability to build applications and scale-up. Again, these concerns may theoretically be resolved by IP laws in terms of how they will relate to algorithm patenting, inventory granting, and resolving related issues. Artificial Intelligence technology has resulted in conflict between Artificial Intelligence and Intellectual Property Law. Artificial Intelligence can be of 2 different forms. These are – Strong Artificial Intelligence, requiring creative thought and rational reasoning skills, and Weak Artificial Intelligence, which only produces a system adapted to the limited task required.[[11]](#footnote-12) In the case of a weak Artificial Intelligence, a person has complete control over the machine, while in the case of a strong Artificial Intelligence the computer thinks for itself and the person has less control over it.The Artificial Intelligence revolution has brought to light whether the machine’s outputs are attributable to one's intellect or a human's commands. The problem was solved by the Turing Test. The users conversed with the computer only by text according to the study and indicated whether or not it was like a human conversation.[[12]](#footnote-13)

In the case of ***Burrow Gilles Lithographic Co v. Sarony[[13]](#footnote-14)*** granting copyright protection to a product which is the result of a machine was discussed. The Court held that purely mechanical labour is per se, not creative. The Court here made the scope of protection of copyright narrow. In the context of this case, granting the copyright for the works of Artificial Intelligence would be difficult.

In the case of ***Bleistein v. Donaldson Lithographing Co[[14]](#footnote-15)***, the Court distinguished between human work and artificial work. Justice Holmes, writing for the majority delineated the uniqueness of human personality and stipulated the same as a prerequisite to copyright. The Court made its stance clear by using the words 'something irreducible, which is one man's alone' which meant that there was no scope for anything that was not a product of man's creativity.

In the case of ***Blisk v. Kappos[[15]](#footnote-16)***, the Court has denied patents to programs simply because what they perform is mechanical rather than inventive.

Artificial Intelligence would develop more and more in the future. Situations would arise where protection under copyright and patent would come into the picture. So, a detailed guideline or framework relating to this issue must be made. The inventions and literary works created by Artificial Intelligence must be provided legal protection.

**INTERNATIONAL APPROACH:**

**UNICRI and Centre for Artificial Intelligence and Robotics:**

In early 2015, the United Nations Interregional Crime and Justice Research Institute (UNICRI) established a centre on AI and robotics to "help focus expertise on Artificial Intelligence (AI) throughout the UN in a single agency." With the support of the Municipality of The Hague and the Ministry of Foreign Affairs of the Netherlands, UNICRI "signed the host country agreement for the opening of its Centre for Artificial Intelligence and Robotics in The Hague, the Netherlands, in September 2017.”[[16]](#footnote-17) This Centre is focused on “understanding and addressing the risks and benefits of AI and robotics from the perspective of crime and security through awareness-raising, education, exchange of information, and harmonization of stakeholders.” UNICRI has developed a “large international network of stakeholders with whom it collaborates, including the International Criminal Police Organization (INTERPOL), the International Telecommunications Union (ITU), the Institute of Electrical and Electronics Engineers (IEEE), the Foundation for Responsible Robotics, the World Economic Forum, Centre for Future Intelligence, and many more.”

According to the UNICRI website,during the 71st session of the United Nations General Assembly, on 29 September 2016, the Director of UNICRI, Ms Cindy J. Smith, announced that UNICRI was in the process of opening of the first Centre on Artificial Intelligence and Robotics within the United Nations system. She explained that "The Centre aims to enhance understanding of the risk-benefit duality of Artificial Intelligence and Robotics through improved coordination, knowledge collection and dissemination, awareness-raising and outreach activities. The Centre will open in The Hague, The Netherlands. The main outcome of the above initiative will be that all stakeholders, including policymakers and governmental officials, possess improved knowledge and understanding of both the risks and benefits of such technologies and that they commence discussion on these risks and potential solutions in an appropriate and balanced manner."[[17]](#footnote-18)

In October 2015, during the 70th Session of the UN General Assembly, UNICRI held a side event titled "Rising to the Challenges of International Security and the Emergence of Artificial Intelligence" that took place in the United Nations Headquarters, New York.

**Human Rights Council:**

In 2017, two reports were submitted to the UN Human Rights Council (UNHRC) that discussed the implications of AI technologies on human rights.[[18]](#footnote-19) On May 5, 2017, a report from the Office of the High Commissioner for Human Rights on the topic of "ways to bridge the gender digital divide from a human rights perspective" referred to "algorithmic discrimination and bias, and the potential for AI to drive improvements in women's health." A report from the Independent Expert on the rights of older persons "addressed the opportunities and challenges of robotics, artificial intelligence, and automation in the care of older persons."

**GOVERNMENT'S APPROACH AND INITIATIVES:**

**Government of India report: artificial intelligence task force:**

On 24 August 2017, the Ministry of Industry and Commerce created an eighteen-member AI Task Force for India's Economic Transformation[[19]](#footnote-20), composed of experts, academics and researchers/industry leaders, with the participation of government agencies/ministries (such as the National Institute for Transforming India (NITI Aayog), Ministry of Electronics and Information Technology, Dep., Unique Identification Authority of India and DRDO)[[20]](#footnote-21). In January 2018 the task force finalized its report.[[21]](#footnote-22)

The Task Force's report examined the 'use of AI along with its major challenges and potential solutions for each field.' It examined ten sectors, referred to as 'domains of relevance to India.' These sectors were: Manufacturing, FinTech, Agriculture, Healthcare, Different Capable Technology, National Security, Environment, Public Utilities Services, Retail and Customer Relationship, and Education.[[22]](#footnote-23)

*The task force made several recommendations:*

Noting that 'AI should be seen as a scalable problem solver in India rather than only as a booster of economic growth', the Task Force recommends:

1. the creation of an inter-ministerial National AI mission to coordinate AI-related activities in India;
2. enabling the setting up of digital data banks, marketplaces and exchanges to ensure availability of cross-industry data and information;
3. participating in the elaboration of operation standards for AI-based systems;
4. putting in place enabling policies to encourage and facilitate the development and deployment of AI-based products (such as data policies regarding ownership, sharing rights, and usage, as well as tax incentives to support innovation);
5. elaborating an AI education strategy to develop human resources with necessary skills;
6. supporting reskilling of the current workforce;
7. participating in the international policy discussion on the governance of AI technologies; and
8. Leveraging bilateral partnership on the development of AI solutions for social and economic problems and for sharing best practices in regulation.[[23]](#footnote-24)

**National Strategy for Artificial Intelligence: NITI AAYOG:**

On February 1, 2018, Finance Minister Arun Jaitley stated that the government think-tank NITI Aayog "would lead the national program on AI" and that "[the government is set to support start-ups and centres of excellence concerning AI training and research activities."[[24]](#footnote-25)

The Committee of Secretaries held a meeting on February 8, 2018, and tasked NITI Aayog with formulating a National Strategy Plan for AI "in consultation with Ministries and Departments concerned, academia and private sector."[[25]](#footnote-26) On June 4, 2018, NITI Aayog published a discussion paper on a National Strategy on Artificial Intelligence.[[26]](#footnote-27) The discussion paper states that "the strategy should strive to leverage AI for economic growth, social development, and inclusive growth." It identified five sectors that could have the most social impact and which should be focused on: Healthcare, Agriculture, Education, Smart Cities/Infrastructure, Smart Mobility, and Transportation.Experts have noted that the proposed strategy stands out due to its “focus on the social sector.”[[27]](#footnote-28)

The discussion paper provides over thirty policy recommendations, including “investing in scientific research, encouraging reskilling and training, accelerating the adoption of AI across the value chain, and promoting ethics, privacy, and security in AI.”[[28]](#footnote-29)Tim Dutton, an AI policy researcher, provides a summary of some of these policy recommendations:

Its flagship initiative is a two-tiered integrated strategy to boost research in AI. First, new Centres of Research Excellence in AI (COREs) will focus on fundamental research. Second, the COREs will act as technology feeders for the International Centres for Transformational AI (ICTAIs), which will focus on creating AI-based applications in domains of societal importance.

In the report, NITI Aayog identifies healthcare, agriculture, education, smart cities, and smart mobility as the priority sectors that will benefit the most socially from applying AI. The report also recommends setting up a consortium of Ethics Councils at each CORE and ICTAI, developing sector-specific guidelines on privacy, security, and ethics, creating a National AI Marketplace to increase market discovery and reduce time and cost of collecting data, and several initiatives to help the overall workforce acquire skills. Strategically, the government wants to establish India as an "AI Garage," meaning that if a company can deploy an AI in India, it will then apply to the rest of the developing world.[[29]](#footnote-30)

**Committees: ministry of electronics and information technology:**

The Ministry of Electronics and Information Technology has established four committees to help encourage research in AI. They are headed by “directors of Indian Institutes of Technology (IITs), NASSCOM and eminent researchers”[[30]](#footnote-31) and include the following:

1. Committee on platforms and data for AI;
2. Committee on leveraging AI for identifying National Missions in key sectors;
3. Committee on mapping technological capabilities, key policy enablers, skilling, reskilling and R&D;
4. Committee on cyber security, safety, legal and ethical issues.[[31]](#footnote-32)

The four committees are "presently studying AI in context of citizen-centric services; data platforms; skilling, reskilling and R&D; and legal, regulatory and cyber security perspectives."[[[32]](#footnote-33)](https://www.loc.gov/law/help/artificial-intelligence/asia-pacific.php" \l "_ftn77)

**AI and Defence:**

In February 2018, the government of India established a multi-stakeholder task force ("comprising the Government, Services, Academia, Industry, Professionals, and Start-ups") to study the strategic and national security implications of AI for India. The task force submitted its report to the Minister of Defence on June 30, 2018. The report is said to include

recommendations relating to making India a significant power of AI in defence, specifically in the area of aviation, naval, land systems, cyber, nuclear and biological warfare including both defensive and offensive needs including counter AI needs; recommendations for policy and institutional interventions required to regulate and encourage robust AI-based technologies for defence sector; working with start-ups/commercial industry and recommendations for appropriate strategies of working with start-ups.[[33]](#footnote-34)

Ambassador Amandeep Singh Gill of India as chair of both the 2017 and 2018 meetings of the GGE on LAWS. India's position on Laws[[34]](#footnote-35) is that the Convention on Certain Conventional Weapons is the “relevant forum to address the issue of the possible expansion of the autonomous dimension of lethal weapons systems,” and it “advised for balancing the lethality of these weapons with military necessity—adopting a wait-and-watchapproach to how the conversation evolves.”[[35]](#footnote-36)

**CHALLENGES: REGULATORY FRAMEWORK:**

**Privacy Challenges:**

India currently does not have a comprehensive legal framework for data protection. On July 27, 2018, the government of India’s Committee of Experts headed by Justice B.N. Srikrishna Committee released a draft Protection of Personal Data Bill[[36]](#footnote-37)along with an accompanying report titled ***A Free and Fair Digital Economy Protecting Privacy, Empowering Indians.[[37]](#footnote-38)*** The Bill, like the EU’s General Data Protection Regulation, establishes a set of rights but does not appear to include rights to protect against automated decision-making.[[38]](#footnote-39) According to an analysis by the Centre for Internet and Society, “the Bill creates a framework to address harms arising out of AI, but does not empower the individual to decide how their data is processed and remains silent on the issue of ‘black box’ algorithms” and is “focused on placing the responsibility on companies to prevent harm.”[[39]](#footnote-40)

The Committee’s report states that**:** the second group of rights related to the right to object to automated decision-making and to access the logic behind it. In our view, these rights, again a response by the EU to emerging challenges from Big Data and AI, have a legitimate rationale. They are aimed at curbing harm due to prejudice and discrimination in output data owing to evaluative determinations without human review. The solution provided by this right is to simply involve a step of human review, which is not per se immune from prejudice. This is a change in the operational structure of an organization. Such a change may be necessitated, provided it is carefully tailored to specific organizations and the nature of their processing activity. This, in our view, is better achieved through an accountability framework that requires certain data fiduciaries, which may be making evaluative decisions through automated means, to set up processes that weed out discrimination. This is a constituent element of privacy by design which should be implemented by entities proactively, audited periodically, and monitored by the DPA in case there are examples of unlawful processing. At the same time, such a model does not entirely denude the individual of the agency. If discrimination has ensued as a result of per se lawful, yet discriminatory automated processing, individuals are always at liberty to go to courts for a breach of fiduciary duties. Thus, the interests underlying such rights can be more efficaciously achieved by an ex-ante accountability model.[[40]](#footnote-41)

**B. Automated Vehicles**

The Seventh Schedule of the Constitution of India lists legislative subjects that are in the exclusive or concurrent jurisdiction of the central government or state governments. The regulation of motor vehicles in India appears to be under the concurrent jurisdiction of both the central and state governments.[[41]](#footnote-42) Motor vehicle road safety is regulated by the central level by the Motor Vehicles Act[[42]](#footnote-43) and the Central Motor Vehicle Rules. State governments have their laws and policies. The current Motor Vehicle Act does not appear to allow for automated vehicles (AVs) or AV testing. However, amending legislation, which was passed in the Lok Sabha (lower house of Parliament) on April 10, 2017, but is still pending before the upper house chamber, the Rajya Sabha, includes an exemption that may allow testing of AVs:

Notwithstanding anything contained in this Act and subject to such conditions as may be prescribed by the Central Government, to promote innovation and research and development in the fields of vehicular engineering, mechanically propelled vehicles and transportation in general, the Central Government may exempt certain types of mechanically propelled vehicles from the application of the provisions of this Act.[[43]](#footnote-44)

At the end of July 2018, the Minister of Road Transport and Highways was reported to have said that "we won't allow driverless cars in India. I am very clear about this. We won't allow any technology that takes away jobs. In a country where you have unemployment, you can't have a technology that ends up taking people's jobs."[[44]](#footnote-45)

**CONCLUSION:**

This article was overarching intended to influence existing AI policy deliberation in India. It analysed the current policy landscape in India and argued that the limitations of data-driven decision-making should be a fundamental consideration in AI policy development, and not a retrospective one. Given the multiplicity of efforts in the space already, it focussed on highlighting those aspects of the debate that has been only peripherally examined so far. To conclude this discussion, it seems that an AI regulatory agenda need not warrant re-inventing the regulatory wheel. Instead, it should incorporate two elements:

1. The same gamut of regulations that would apply to a human being performing the same or a similar function. Some modifications may be made to current legislation or proposals at an advanced stage, so that AI can be addressed through them.
2. Additional regulations that would address and manage the risks posed by AI that are inherently unique to such systems and distinguish them from the rest.

Related to IP Rights: Technology has been advancing day by day. The human race is making efforts every day to make life easier. This generation is witnessing a great dependence of humans on machines. They are not able to do without machines. Machines have become a part and parcel of life. We cannot imagine life without them. Artificial Intelligence occupies a special position among machines. Such systems make inventions which cannot be made by the work of human independently possible. It has become an asset for almost all fields. On one hand, Artificial Intelligence is a boon for society but on the other hand, the question arises whether the human race is ready for such a level of technological advancement. Merely creating an Artificial Intelligence system won't do. The inventions by them should be granted protection. The literary works should be given copyright protection. Who should be granted such protection – the system or the creator is also a controversial matter. Fixing of criminal liability should also be done properly. Laws should be framed regarding Artificial Intelligence and the protection of the inventions and works done by them. The state of Artificial Intelligence concerning Intellectual Property Rights is presently not clear. Acknowledgment of the works of such a system is a blessing but its implementation is an issue. Laws regarding Artificial Intelligence have a lot of loopholes and require improvements.

“The development of full artificial intelligence could spell the end of a human race.”- **PROF. STEPHEN HAWKING.**

“AI is a new digital frontier that will have a profound impact on the world”- ***WIPO Director General Francis Gurry.***

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