

To

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TRAI Consultation on Leveraging Artificial Intelligence and Big Data in Telecommunications Sector

GSMA Response

Introduction

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Its vision is to unlock the full power of connectivity so that people, industry and society thrive. The GSMA represents mobile operators and organisations across the mobile ecosystem and adjacent industries, delivering for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach.

The GSMA welcomes the opportunity to provide comments on the TRAI's consultation 'Leveraging Artificial Intelligence and Big Data in Telecommunication Sector'. The GSMA and its members have undertaken extensive work on Artificial Intelligence (AI) and would be happy to engage with TRAI to share further learnings

Executive Summary

AI is a powerful, emerging force that is transforming business and society. The potential of AI technologies to unlock benefits for organisations and society is only beginning to be seen. AI can help organisations to improve prediction, optimise operations, allocate resources more efficiently, and personalise digital solutions. PwC estimates AI could contribute \$15.7 trillion to the global economy by 2030. However, AI is not a futuristic technology; it is already present in everyday lives and used across a wide variety of industries.

It is important to acknowledge that AI is not a telecom service or a connectivity solution, rather a wider ICT technology (and not a vertical-oriented term) that is emerging as an IT capability that can be customised over a period of time to solve a lot of today's problems. Hence any regulations pertaining to AI should not be telco specific and apply horizontally across sectors. AI is being explored at the core operational and business models by an increasing number of mobile network operators. Three common uses are:

- Core business optimisation: network optimisation, real-time network monitoring, predictive maintenance and network security through improved efficiency¹.

¹ <https://www.gsma.com/futurenetworks/network-economics/case-studies/>

- Personalised customer interaction: improved communication with customers through robotic process automation, virtual assistance, and B2B sales optimisation.
- AI-driven products and services: providing services to third parties, such as location-based health insights and assisting with new approaches to credit scoring.

The key areas where Mobile Big Data (MBD) and AI are having the most impact and where further value can be added include²:

- Cities and public infrastructure: Insights for cities and communities that enable better planning, service delivery, connection and mobility
- Climate change and environment: Improved understanding and monitoring of environmental issues, supporting climate change impact reduction and more accurate forecasting
- Managing disasters: Providing better disaster alerts, supporting emergency response, informing potential for recovery and specific rehabilitation initiatives
- Industry and commerce: Inclusive and efficient economic and industrial development through increased transparency, operational planning and financial access
- Social inclusion: Enhancing equity, social welfare, public access and health, and informing effective solutions to pressing social challenges

Definition of AI

While there is no single definition of AI yet, in its simplest form, AI is where machines perform cognitive functions similar to those attributed to humans. A commonly considered definition of AI, including within the European Commission's (draft) AI Act, is as follows: "An 'artificial intelligence system' (AI system) means a system that is designed to operate with a certain level of autonomy and that, based on machine and/or human-provided data and inputs, infers how to achieve a given set of human-defined objectives using machine learning and/or logic- and knowledge based approaches, and produces system-generated outputs such as content (generative AI systems), predictions, recommendations or decisions, influencing the environments with which the AI system interacts...".

Policy considerations

Telcos have always been at the forefront of bringing such innovations not just as external service offerings, but also to optimise their own network and service operations. It goes without saying that it is in the Telcos' best interest to continue to bring more efficiency within their network operations and performances, to drive costs down, increase customer satisfaction and generate better efficiencies.

Having said that, AI is an evolving field, and the basic requirements for developing and deploying AI models are the algorithms, data and compute/storage infra - used for specific business outcomes that vary with each use case / sector/ service. Industry is still exploring how it might prove to be a benefit for telecom service providers/network services.

² <https://www.gsma.com/betterfuture/resources/ai4i-use-cases>

Flexible and Risk based approaches

In developing a governance framework for AI, it is important that a risk-based approach is taken, with a clear and technically accurate definition of AI. As technology and the environment develops in the future, this definition can be revisited and adapted. However, an overly broad or open-ended definition at these early days of AI development risks extending the scope of regulation beyond what is needed, creating a disproportionate burden for developers of technology.

In developing its regulatory proposal, the GSMA encourages TRAI to consider a set of horizontal, complementary, proportionate and flexible rules which give AI developers, deployers and users the clarity they need by intervening only in those cases which existing legislation does not cover. For example, the Government of India's review of its proposed data protection law, presents the ideal opportunity to also consider and incorporate AI and Big Data considerations into the proposed law rather than developing separate regulations. Furthermore, AI is not specific to a particular sector, we recommend a horizontal approach.

It is important to balance legal certainty for providers and users of AI with measures to ensure that framework is sufficiently flexible, future-proof and allows innovation to flourish without any prescriptive compliances. As in other countries where new AI-specific regulation is being considered, the mobile network operators in India need legal certainty and predictability as well as a fair division of responsibility across the entire ecosystem. Self-certification processes together with government oversight of high-risk AI and systems transparency requirements for AI systems that interact with people is a more flexible approach and one currently being considered by European Commission in its AI Act.

However, since AI is a horizontal ICT concept, it is important that an overarching national legislative framework encompassing all user sectors and the economy is developed, and when the principles and parameters of AI are defined, an assessment may be undertaken to examine if a proportionate and appropriate intervention keeping in view the developments.

Regulatory Sandboxes

To support the rapid development of technology, the GSMA also encourages the establishment of regulatory sandboxes to allow innovators to trial new products, services and business models in a real-world environment with added flexibility. For example, in a broader sense, data privacy sandboxes exist in Singapore, through the Personal Data Protection Commission's Data Collaborative Programme. The Global Financial Innovation Network (in which Hong Kong and Singapore financial authorities participate) has announced the launch of a (cross-border) innovation sandbox for the financial services industry. The ASEAN-GSMA Regulatory Pilot Space for Cross-Border Data Flows can also help inform a model for future cross-border regulatory sandboxes for data in a broader sense³. These sandboxes can be applied horizontally are not specific to the telecom sector.

³ [ASEAN Sandbox Proposal Final 20190403 \(gsma.com\)](https://www.gsma.com/asean-sandbox-proposal-final-20190403)

The Telecom operator data is proprietary. It costs a great deal to obtain, capture, store, process and analyse, and could even involve IPRs. Therefore, any mandatory applicability of Telco Big data with any party/agency/entity should only be governed under a mutual commercial framework, and without any regulatory mandates at this point.

Privacy and AI Ethics

The use of AI also depends on large amounts of data, often relating to individuals, and makes inferences based on this data. These inferences may be used to guide decisions that have a significant impact on the things people care about the most – their health, employment and access to resources. It is, therefore, vital that AI is used in a way that protects peoples' fundamental human rights.

AI has the potential to truly change the world, and this represents not only an opportunity but also a responsibility. It is increasingly an essential element of the infrastructure on which our society is built, playing an active role in basic services, financial markets and international supply chains, to name a few. We need to be able to trust AI to behave in the way we want it to; and when it does not, we need to be able to understand what went wrong and who should be accountable.

Governments can ensure their country and citizens gain the most benefit from the potential of big data by:

- Understanding how big data analytics works and the context in which it takes place.
- Accommodating innovative approaches to transparency and consent.
- Encouraging the development and adoption of practical industry guidelines and self-regulatory measures that seek to harness, rather than hinder, big data analytics.

Mobile operators are well placed to understand the potential risks to individuals and groups from big data analytics and can implement measures to avoid or mitigate those risks. While aggregated and anonymised data can be safely shared with governments without compromising individuals' privacy, it is of higher value when mobile network operators leverage their expertise and provide final insights. When this data is enriched with third-party data sources, it can enable the public sector to make evidence-based decisions. For example, during the Covid-19 pandemic MTN Nigeria provided insights to support medical preparedness and identify economically vulnerable communities⁴.

The GSMA and mobile industry are committed to advancing responsible data practices. In addition to the GSMA's Mobile Privacy Principles, the GSMA has developed a Mobile Privacy and Big Data Analytics: AI for Impact Considerations paper⁵.

New insights derived from customer data will often give rise to new uses or "purposes of processing" that had not been considered or identified when the data was initially collected. Accordingly, privacy frameworks must recognise this potential and make such uses possible. Industry can address these types of challenges and increase consumer trust by:

⁴ https://www.gsma.com/betterfuture/wp-content/uploads/2021/03/GSMA-AI4I-Covid-Response-Report_March2021.pdf

⁵ <https://www.gsma.com/publicpolicy/resources/mobile-privacy-big-data-analytics>

- Building on existing privacy initiatives, such as the GSMA's Mobile Privacy Principles⁶ and the Privacy Design Guidelines for Mobile Application Development⁷.
- Finding innovative ways to provide individuals with meaningful choice, control and transparency to individuals on what data is collected and how it is used. For example, through user-friendly dashboards or signals from IoT devices easily discoverable by smartphones.
- Thinking carefully about the impact on individuals (and groups) of insights derived from big data and the actions or decisions that may be taken based on those insights.
- Reducing the risk of re-identification of individuals after data has been processed where this may raise privacy concerns.
- Establishing clarity on responsibilities between parties when collaborating on big data analytics projects.
- Incorporating ethical decision-making into governance models.

The AI for Impact (AI4I) initiative⁸, led by the GSMA and guided by a task force of 21 mobile operators and an advisory panel of 12 UN agencies and partners, has defined the technical, commercial and ecosystem requirements to deliver viable data-driven products and services that adhere to principles of privacy and ethics. At the national level, the GSMA supports real-world implementations, replicating proven models and delivering market-shaping campaigns to unlock demand and address barriers. The GSMA AI for Impact Toolkit⁹ aims to identify the fundamental aspects of scaling up big data solutions sustainably to a wide range of humanitarian and environmental issues. The GSMA is doing this by bringing together stakeholders from the private sector, humanitarian agencies and governments, and by establishing a common framework for implementing mobile big data projects. To highlight best practices, the GSMA is also capturing the learnings from projects in published case studies and is sharing knowledge globally through this external proposition toolkit.

The GSMA in its AI Ethics Playbook¹⁰ discusses ethical principles that can help to ensure AI systems are reliable, reproducible and explainable, which will ultimately increase their value for a company as well as ensure a more positive impact on society. To act ethically, organisations require a guiding framework that explains what good ethical behaviour looks like. As AI has developed, and the potential risks of AI have become clearer, many organisations have written AI ethical principles for this purpose. The seven principles that are discussed in GSMA's Playbook are:

- **Fairness:** For an AI system to be fair, it must not discriminate against people or groups in a way that leads to adverse decisions or inferences. Non-discrimination and equality are central features of the major human rights treaties and many countries' laws.

⁶ <https://www.gsma.com/publicpolicy/resources/mobile-privacy-principles>

⁷ <https://www.gsma.com/publicpolicy/wp-content/uploads/2018/02/GSMA-Privacy-Design-Guidelines-for-Mobile-Application-Development.pdf>

⁸ <https://www.gsma.com/betterfuture/aiforimpact>

⁹ <https://aiforimpacttoolkit.gsma.com>

¹⁰ <https://www.gsma.com/betterfuture/wp-content/uploads/2022/01/The-Mobile-Industry-Ethics-Playbook-Feb-2022.pdf>

- **Human agency and oversight:** It is important to determine an appropriate level of human oversight and control of an AI system. As AI directs decision-making, people may become reliant on a system. Organisations must respect human autonomy.
- **Privacy and security:** AI systems should respect and uphold an individual's right to privacy and ensure personal data is protected and secure. Organisations using AI should pay special attention to any additional privacy and security risks arising from AI systems.
- **Safety and robustness:** AI systems should be safe, robust and reliably operated in accordance with their intended purpose throughout the lifecycle.
- **Transparency and explainability:** It is important to be transparent about when an AI system is being used, what kind of data it uses, and its purpose. Explainability is the principle of communicating the reasoning behind a decision in a way that is understandable to a range of people, as it is not always clear how an AI system has arrived at a conclusion.
- **Accountability:** Organisations should have a governance structure that makes it clear who is responsible for reporting and decision-making and is thereby ultimately accountable, throughout an AI lifecycle. Accountability is key to complying with regulatory and legal requirements.
- **Environmental impact:** AI systems must be designed, developed and deployed in a way that is mindful of environmental impact throughout their lifecycle and value chain. With careful consideration of systemic consequences, AI can help to secure a sustainable future for all.

5G and beyond technologies

5G networks bring substantial improvements over 4G networks, including higher connection speeds, greater capacity and low latency. With this increased performance, 5G networks can enable new use cases and applications that will positively impact many industry sectors, such as improved access to healthcare and education, increased public security and response times, safer driving conditions, and reduced pollution.

The GSMA agrees with TRAI that deployment of 5G and beyond technologies will likely help to accelerate adoption of AI in several sectors and vice versa. The creation of AI-specific infrastructure for start-ups and telecoms enterprises to develop and run AI models in an optimised manner is a useful approach. For example, a global platform to accelerate AI innovation for 5G has been developed in the Telco-X Collider Lab, an AI partnership between the GSMA and the Sutardja Center for Innovation and Entrepreneurship at the University of California, Berkeley. By bridging the gap between academia and industry, the Telco-X Collider Lab is a unique environment that creates new AI applications and works on open-ended projects to explore new use cases for machine learning in future 5G networks, IoT and industry verticals.

GSMA Resources

The GSMA Capacity Building programme offers an extensive range of free training courses for policymakers and regulators, including on Big Data Analytics and Artificial Intelligence for Impact. These are provided either face-to-face or [online](#) and the GSMA would be delighted

to discuss how it can assist TRAI on these, or other, capacity building course topics. For more information visit this [link](#).

Finally, the GSMA would like to share resources for further reading:

- 1) GSMA AI4I Digital Toolkit: <https://aiforimpacttoolkit.gsma.com/>
- 2) GSMA AI Ethics Playbook: https://www.gsma.com/betterfuture/wp-content/uploads/2022/01/The-Mobile-Industry-Ethics-Playbook_Feb-2022.pdf
- 3) GSMA AI4I Use cases: https://www.gsma.com/betterfuture/wp-content/uploads/2022/05/GSMA-FCDO_Highlights-Flyer_May-2022.pdf
- 4) GSMA Foundry: <https://www.gsma.com/foundry/>

We thank TRAI for giving the opportunity to engage on this subject area. We remain available for further discussions and knowledge exchanges.

We look forward to engaging in the future with TRAI on many such significant policy areas.

Best regards,



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