

International Conference

Identifying Elements of Ethical and Regulatory Framework for 6G and Creating Opportunities for India and Australia

AUGUST 17, 2022 | WEDNESDAY | 0900 – 1745 IST
THE METROPOLITAN HOTEL, NEW DELHI
(Hybrid mode)

Conference Report

Background

Consumer Unity & Trust Society (CUTS) organised a conference titled 'Identifying Elements of Ethical and Regulatory Framework for 6G and Creating Opportunities for India Australia', in partnership with the Australian Risk Policy Institute (ARPI), and International Institute of Information Technology Bangalore (IIIT-B). The conference, along with the inaugural session 'Strengthening India-Australia Partnership on Cyber & Critical Technologies,' included three technical sessions: Cyber and Critical Technologies – Strategic Importance and Opportunities for India and Australia; Understanding 6G, Its Standards, and Related Issues and Concerns; and Identifying Elements of Ethical and Regulatory Framework for 6G. The project is supported by the Australian Government's Department of Foreign Affairs and Trade and India's Department of Telecommunications (DoT) provided their log support.

The first session underscored the role of cyber and critical technologies, which have assumed high importance from a geopolitical and strategic point of view and are increasingly influencing international order, trade and investment. The second session highlighted the importance of building cooperation in the standard-making process to ensure diverse and trusted technology supply chains. The third session focussed on concerns related to unethical uses of 6G.

Around 60 participants, including stakeholders, such as civil society organisations, technologists, academia, government representatives and industry bodies from India and Australia, participated. The names of the speakers and discussion points have been highlighted in the following section.

Inaugural Session:
**Strengthening India-Australia Partnership
on Cyber & Critical Technologies**

Time: 0930-1100 IST

Moderator:

Pradeep S Mehta, Secretary General, CUTS International,

Speakers:

Barry O'Farrell AO, Australian High Commissioner to India;

Lt Gen Dr S P Kochhar, Director General, Cellular Operators Association of India (COAI);

Abhay Shanker Verma, Deputy Director General (Mobile Technologies), Telecom Engineering Centre, Department of Technology.

Session Highlights:

- The session highlighted that while developing and deploying cyber technologies, democratic countries must come together and ensure a rules-based digital space which can counter unethical practices. Apart from the government to government collaborations, civil society, academic institutions, think tanks, and private organisations in both countries Australia and India should collaborate to play a critical role in developing safe and trusted cyberspace and shaping global discourse.
- In the Indo-Pacific region, Australia and India are natural partners. Both countries have greater value in contributing to developing cyber and critical technologies, and this partnership aims to strengthen the linkages across the board in this specific sector. The panellist cautioned against individual countries trying to establish country-specific standards that deviate from international standards, which could be detrimental to a global and interoperable 6G.
- India's leadership in technological development in the Indo-Pacific region and Australia's commitment to invest in and collaborate with India at multiple layers. This will help unlock economic opportunities and achieve the desired outcomes of raising the living standards of common people in both these countries. The focus of the India-Australia partnership on the subject should consider the market, or else the effort may remain an academic exercise. Thus, taking industry onboard from both countries assumes importance in the research and development process.
- It was highlighted by the panellists that India has come a long way from merely adopting standards to contributing to the global standard-making process. The ITU and India accepted at least two recommendations, contributing substantially to the standard process.

Technical Session 1:

Cyber and Critical Technologies – Strategic Importance and Opportunities for India and Australia

Time: 1130-1300 IST

Moderator:

Subimal Bhattacharjee, Independent Consultant on Defence and Cyber Security

Speakers:

Ravi Thapar, Former Diplomat and Professor and Executive Dean, Jindal School of International Affairs, O.P. Jindal Global University;

Georgina McKay, First Secretary, Australian High Commission, New Delhi;

Sameer Patil, Senior Fellow, Observer Research Foundation;

Pip Wyrdeman, Partner, Cyber, PwC Australia;

Bart Hogeveen, Head of Cyber Capacity Building, Australian Strategic Policy Institute.

Session Highlights:

- The moderator started the session by recalling how, nearly two decades ago, in 2001, the Indian government decided to discuss the issue of developing a well-regulated cyberspace and digital ecosystem. The concept of cyberspace and the commercialisation of information was novel, and the cyber technology sector was in its infancy. It was when countries worldwide were taking steps to boost their cyber and technology industries to capitalise on it and reap significant economic benefits. Today, however, it is much more complex and dynamic and has significantly impacted the strategic and geopolitical aspects.
- With the evolution of cyberspace and technology, reliance on the internet and technologies has increased. Furthermore, this has also exposed the issue of more misuse than benefits. These negative consequences have severe implications for the internet's fundamental principles, i.e. free and fair participation for all. There is a need to assess and make serious efforts to protect the sanctity of cyberspace for it to remain a free medium and to prevent unfair and unethical use of technology. Constant efforts must be made to update the ethical and regulatory framework and push for capacity building at national and international levels to keep up with technological advancements.
- 6G technology is expected to significantly impact the world's future because it is all about data transmission and fast communications. Whether robotics, Artificial Intelligence (AI), Blockchain, the Internet of Things (IoT), monitoring the space, or advancement in defence, 6G technology will bring revolutionary change. This also

includes the use of drones, progress in medical sciences, and innovation and invention. 6G technology has great potential, and the world is determined not to be late this time because, in 5G, some countries were ahead and were able to monopolise the standards.

- India's technology diplomacy has advanced significantly, actively cooperating on a multilateral level, with special mention of the QUAD (officially the Quadrilateral Security Dialogue, is a group of four countries: the United States, Australia, India, and Japan) and the International Supply Chain Resilience Initiative. On bilateral levels, it actively engages with nations like the US, Japan, and others to strengthen cyberspace. India and Australia collaborate on bilateral and multilateral levels to develop cyber and critical technologies, focusing on some vital common concerns.

Technical Session 2: **Understanding 6G, Its Standards, and Related Issues and Concerns**

Time: 1400-1530 IST

Moderator:

V Sridhar, Professor at the Centre for IT and Public Policy, International Institute of Information Technology Bangalore (IIITB).

Speakers:

Lt. Gen. Dr. S P Kochhar, Director General, Cellular Operators Association of India (COAI);

Ashok Jhunjhunwala, Institute Professor, Department of Electrical Engineering, Indian Institute of Technology, Madras (IITM);

Mahesh Uppal, Director, Com First (India) Private Limited;

Kumar N Sivarajan, Co-Founder and Chief Technology Officer, Tejas Networks;

Rajeev Shorey, CEO, The University of Queensland–IIT Delhi Academy of Research;

Bharat Bhatia, President, ITU-APT Foundation of India (IAFI).

Session Highlights:

- The panel started by exploring the paradigm shift that 6G technology will bring in different fields, including edge computing, artificial intelligence and machine learning techniques. These technologies will harvest enormous amounts of data to make real-time traffic and spectrum management decisions, etc. In 6G, innovations are moving from telecommunications to computing, and the possibilities are endless in 6G. Most legislation and regulations were developed when there was one service and one service provider. Slowly, the sector has

evolved. With 6G, it would not just be an extension of the previous networks but will bring new functionalities.

- It was also underscored that in 6G, fundamental communication standardisation might be based on 3GPP. However, there will be multiple applications that different standard-making bodies will standardise. Telecommunications Standards Development Society, India (TSDSI) was initially accused of being 3GPP-centric, but that was necessary because, at that time, 4G and 5G were based on 3GPP. India got the breakthrough with the 5Gi standard. Moving from here, India needs to strengthen its position. It will get more Intellectual Property Rights (IPRs) into the standards and can use that to offset all the royalty payments. India should aim for this in the next 5-7 years.
- Telecom companies (telcos) are prepared, but the telecom network is not a sufficient proposition to scoop their investments. They have to look for new windows of a business in the 5G ecosystem. It is safe to assume that telcos will develop new business verticals premised on their networks. The beginning of 5G and 6G will bring new business opportunities for India. Indian companies can have a larger say in the global emerging markets. Handset manufacturing is already taking place in India, and exports are also rising. However, merely assembling is not going to give many advantages to India. Indigenisation of network equipment has also begun to happen.
- Further, India has made contributions and developed software for 5G. The Open Radio Access Network (ORAN) has allowed the sub-systems to be developed and enables developers to do development in parts. The next important thing is standardising the interface between various sub-systems and head and radio band processing units. The task for upcoming years should be to strengthen this position. Unfortunately, companies like Jio and Airtel are tempted to import the components of their network from other markets and do not give enough opportunities to the Indian systems, partly because they want to rely on proven approaches and financial prospects.
- The ecosystem between India and Australia in the collaborative research landscape is growing exponentially. Therefore, this is the right time to discuss how these partnerships influence evolving technologies, such as 5G and 6G.
- Building a global consensus is complex, and regional bodies play a critical role in this process. India and Australia come under the Asia-Pacific Telecom Community group in the ITU set-up. Thus, have a more significant role to play in the spectrum conundrum as the spectrum scenario will be much more complex in 6G.

Technical Session 3:

Identifying Elements of Ethical and Regulatory Framework for 6G

Time: 1600-1730

Moderator:

Allan Asher, Chair and Managing Consultant of Foundation for Effective Markets and Governance (FEMAG) (Moderator).

Speakers:

Aruna Sharma, former Electronics and Information Technology Secretary to the Government of India;

Tony Charge, President, Australian Risk Policy Institute (ARPI);

Deepak Maheshwari, Public Policy Consultant and Senior Visiting Fellow, ICRIER;

N K Goyal, President, CMAI Association of India;

Rajat Kathuria, Dean, School of Humanities and Social Sciences and Professor, Economics, Shiv Nadar University India.

Session Highlights:

- The impact on the lives of ordinary consumers will depend on the use cases of 6G. The good use cases will make people see the advantages and start getting onboarded. Further, more use cases will emerge when common people see their benefits. Technology adoption should not be rushed through, and the test of inclusivity should be applied constantly in every technology being developed. On the face of it, 6G technology appears to be costly. Whenever something is expensive, inclusiveness is the first casualty. Ensuring inclusivity will help bridge the gap between the haves and have-nots. Once provided access to the hardware for use, technology will stand by the marginalised and excluded.

- Vulnerability and risk need to be distinguished. Vulnerability includes exposure and constitutes potential or possible strategic risks which might be present. Vulnerabilities may be of the nature of scientific, technical or consumer protection. These need to be identified by examining the strategic environment through meta networks, which are networks of experts. As information resides among networks, these meta networks can help garner information and intelligence. On the other hand, the risk exists and requires managing. Identifying both vulnerabilities and existing risks is critical, and understanding the difference between vulnerabilities and risks is a challenge in public policies worldwide.

- Concerning regulatory aspects in the telecom space, at least three things need to be looked at: (i) competition, (ii) spectrum bands, and (iii) the legislative framework. For spectrum bands, key questions should be considered when countries like India and Australia keep on waiting for what Asia-Pacific Group of the ITU decides and start thinking about which bands to use. With respect to the legislative framework, while the Ministry of Electronics and Information Technology (MeitY) is coming up with a new legislative framework with the Digital India Act, the Department of Telecommunication (DoT) is working on a new legislative framework which will replace the Indian Telegraph Act 1885. It may be good if there is an integrated legal framework in place.
- The government itself needs to invest more in cybersecurity for their systems. India's major reform in 1998 was that it was mandated to spend 2-3 percent of every government project on IT. Today, there is a requirement for a similar mandate wherein approximately 10 percent of every IT budget should be set aside for cyber security.
- Due to network effects, firms are bound to become larger and structurally dominant in whichever market they occupy. Competition authorities are grappling with the issue of how to deal with such issues. The question in front of the Competition Commission of India (CCI) is whether there is a need for a new framework to deal with competition issues or whether the existing framework is sufficient. There is no need for a new framework for the digital economy but adapting the current framework to more recent conditions.
- Competition enforcement in India is not up to the mark. There is a need to have *ex-ante* regulations to complement competition enforcement. Further, even when enforcement in Europe in terms of fines imposed on big players may be good, conduct remedies on big players are not always effective. Even if a firm is fined, it may not impact its functions. Further, conducting remedies like open source code does not seem to help.
- Further, there will be a need for continuous monitoring by both sectoral and competition authorities. Furthermore, as new technologies emerge, the regulatory regime requires capacity building because bureaucrats and regulatory institutions may not be well equipped to analyse these markets. Technological experts are at an advanced level, regulatory institutions are slow to respond, and how the regulator is trained remains a critical question.