



# PLACING INDIA'S CYBER SECURITY IN THE GLOBAL SCENARIO: THE GLOBAL CYBERSECURITY INDEX (GCI) 2020

*The term “cyberspace” refers to the virtual space created by interconnected computers and computer networks on the Internet. However, given the vast reach it withholds, the networks also get exposed to increasing number of risks. Over the last decade, the cyber intrusions and attacks have increased tremendously causing high implications and repercussions in terms of breach of sensitive personal and business information, disruptions of critical operations, and imposing high costs on the economy of many countries. This highlights the importance of cyber security measures in the current times.*

Cyber security refers to the body of technologies, processes, and practices designed to protect networks, devices, programmes, and data from attack, damage, or unauthorized access. Cyber security is extremely significant in terms of national security as a sizeable portion of data can be sensitive information, whether that be intellectual property, financial data, personal information, or other types of data for which unauthorized access or exposure could have negative consequences for a country. Therefore, owing to the inherent vulnerabilities that come along in the realm of cyberspace, it becomes imperative for a developing country like India to strengthen the cyber ecosystem and infrastructure vis-à-vis its regulatory bodies and Law Enforcement Agencies (LEAs).

With the same vision and objective, Indian Institute of Public Administration with the support of Cyber and Information Security (C&IS) Division of Ministry of Home Affairs, Government of India, conducted an evaluation study on the cyber security measures and activities undertaken by the Government of India. The study specifically evaluated the implementation and functioning of Indian Cyber Crime Coordination Centre (I4C) Scheme which aims at strengthening the cyber ecosystem and infrastructure of the country. The scheme has been conceptualized with the aim of combating cyber-crime in an effective and organized manner. The scheme has seven components and functions through a network of well-coordinated cybersecurity departments and agencies pertaining to different aspects like online reporting, trainings, awareness programmes, overall management and on-field and off-field cyber-crime investigations. The I4C scheme is indeed a landmark in the cyber security history of the India with the sole vision of strengthening the cyber defence capabilities of India.

During the evaluation, IIPA study team put a special focus on the role of cyber policies and LEAs in India and recommended various measures and practical solutions towards enhancement of the scheme. The IIPA study team also highlighted the importance of placing India at a global level in the field of cyber security and awareness. In this regard, IIPA brought the attention of the cyber security authorities towards a need for improving India's global ranking in the top global indices.

One of the most important global indices is the Global Cybersecurity Index (GCI)<sup>ii</sup> by the International Telecommunication Union (ITU), a United Nations specialized agency for information and communication technologies (ICTs). The GCI is a trusted reference that measures the commitment of countries to cybersecurity at a global level, identify gaps and to raise awareness of the importance and different dimensions of the issue. The GCI was first launched in 2015<sup>iii</sup> by the ITU to measure the commitment of 193 ITU member countries and the State of Palestine to cybersecurity and help them in identifying areas of improvement and actions to be taken.

The goal of GCI is to foster a global culture of cybersecurity and integrate the core of ICTs across the ITU membership. It is formulated on the basis of the data provided by the ITU membership, including interested individuals, experts and industry stakeholders as contributing partners with the Australia Strategic Policy Institute, FIRST (Forum for Incident Response and Security Team), Grenoble University (France), Indiana University, INTERPOL, ITU-Arab Regional Cybersecurity Centre in Oman, Korea Internet and Security Agency, NTRA Egypt,

Red Team Cyber, The Potomac Institute of Policy Studies, UNICRI, University of Technology Jamaica, UNODC, and the World Bank.<sup>iv</sup> The Global Cybersecurity Index (GCI) is mandated under ITU Plenipotentiary Resolution 130<sup>v</sup> (Rev. Dubai, 2018) on strengthening the role of ITU in building confidence and security in the use of information and communication technologies (ICTs).

As cybersecurity has a broad field of application, cutting across many industries and various sectors, each country's level of development or engagement is assessed along five pillars or parameters of cybersecurity – (i) Legal Measures, (ii) Technical Measures, (iii) Organizational Measures, (iv) Capacity Development, and (v) Cooperation. The performance is then aggregated into an overall score. According to the ITU, for each of the pillars, country commitment was assessed through a question-based online survey, which further allowed for the collection of supporting evidence. Through consultation with a group of experts, these questions were weighted in order to arrive at an overall GCI score.

In its latest report, the GCI measured scores of 194 countries with 169 Focal points on which 150 questionnaires were submitted. According to the GCI 2020 report, the Median Overall Score Growth since 2018 is 9.5%.<sup>vi</sup> It is, however, worth mentioning here that in the latest report released on Global Cybersecurity Index (GCI) 2020 by the ITU, India has made it to the top ten ranking countries, moving up 37 places to rank as the tenth best country in the world on key cyber safety parameters. The GCI 2020 report was launched by the ITU on June 29, 2021. More importantly, India has also secured the fourth position in the Asia Pacific region beating its own neighbouring countries like China and Pakistan.

According to the GCI 2020 Report, the index mapped 82 questions on Member State cybersecurity commitments across the above mentioned five pillars. The countries were asked 82 questions where 20 indicators were measured. Based on that assessment scores for each country were finalized and countries were ranked globally as well as regionally based on their overall score out of 100. India scored a total of 97.5 points from a possible maximum of 100 points and made it to the tenth position worldwide. More importantly, India significantly improved its position from 47th (GCI Report 2018) to 10th position in the latest GCI 2020 ranking. This is a historic feat for India and a proof of its indomitable efforts towards ensuring cyber security of the country.

Graph 1 and Figure 1 illustrates the country wise ranking and scores of the top 10 rank holding countries, respectively. India scored 97.5 in GCI



**GRAPH 1: GCI Global Top 10 Ranking Countries**



**FIGURE 1: Map representation of the Top 10 ranking countries in GCI 2020**

and has secured the 10th rank. The US is ranked first with a score of 100 while the UK and Saudi Arabia shared the second rank with a score of 99.54 each. Estonia followed closely at third rank with a global score of 99.48 while the Republic of Korea (South Korea), Singapore and Spain scored 98.52 each and shared the fourth position, Russia, UAE, and Malaysia tied for fifth place with a score of 98.06. Lithuania, Japan, Canada, and France followed in subsequent positions in the list. Among other nations, Turkey (score - 97.49) was ranked 11, Germany (score - 97.41) was ranked 13, China (score - 92.53) ranked 33 and Israel (score - 90.93) was ranked 36.

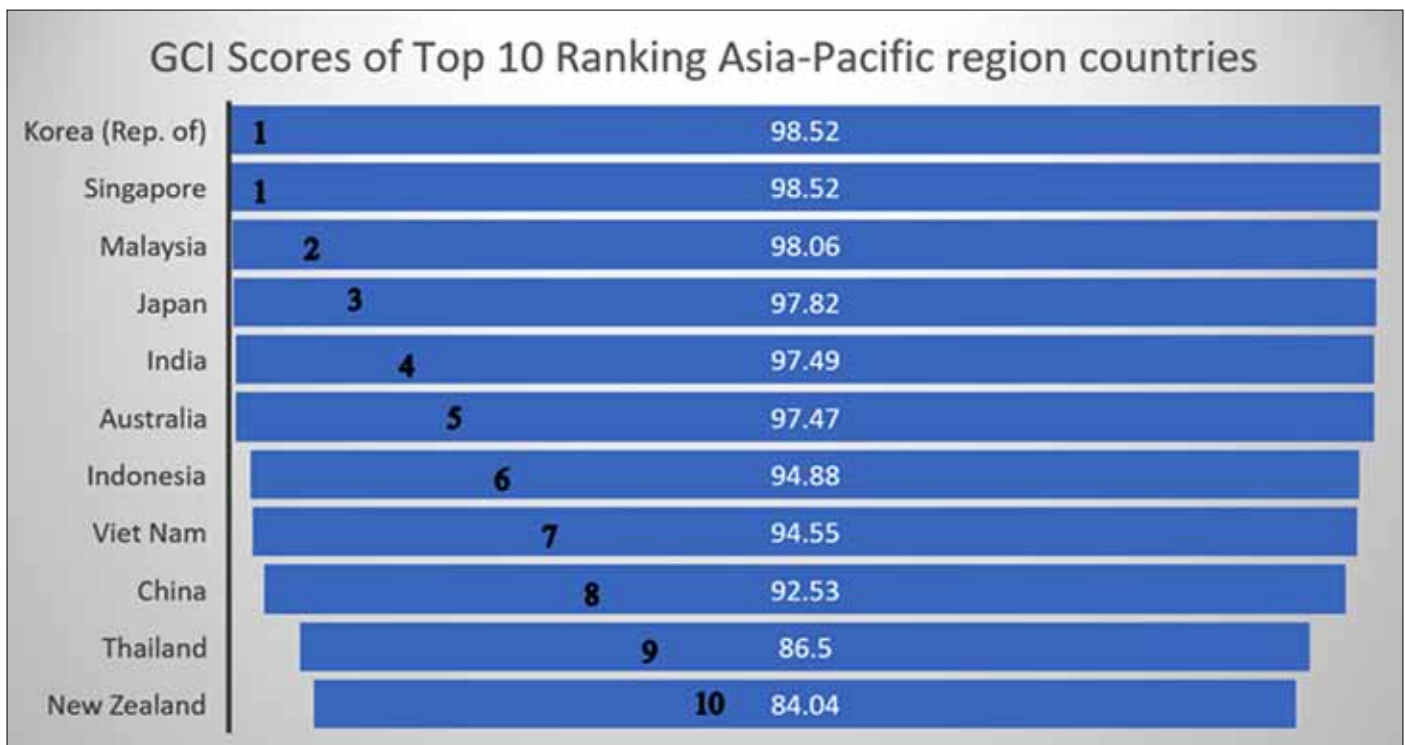
The map depicts the physical representation of the top 10 rank holding countries and their scores. It may be noted that among the South Asian countries, India is the only country to secure a position in the top 10 ranks even beating its neighbouring countries like China and Pakistan.

## Regional scores and Ranking of countries

Figure 2 and Graph 3 illustrates the Asia-Pacific region wise scores and ranking of the top 10 rank holding countries. India has secured the 4th rank in the Asia-Pacific Region in GCI 2020. The other countries in the top 10 ranks are Republic of Korea and Singapore, both ranked first with a score of 98.52 while Malaysia got the second rank with a score of 98.06 each. Japan followed closely at third rank with a global score of 97.82. Australia settled at the fifth place with a score of 97.47 while Indonesia ranked at sixth, Vietnam ranked at seventh, China ranked at eighth, Thailand ranked at ninth and New Zealand ranked at tenth position in the list.



**FIGURE 2:** GCI Scores of Top 10 ranking countries in the Asia-Pacific region



**GRAPH 2:** Regional Ranks of Top 10 ranking Asia Pacific Countries

## India's Overall Score and Measures

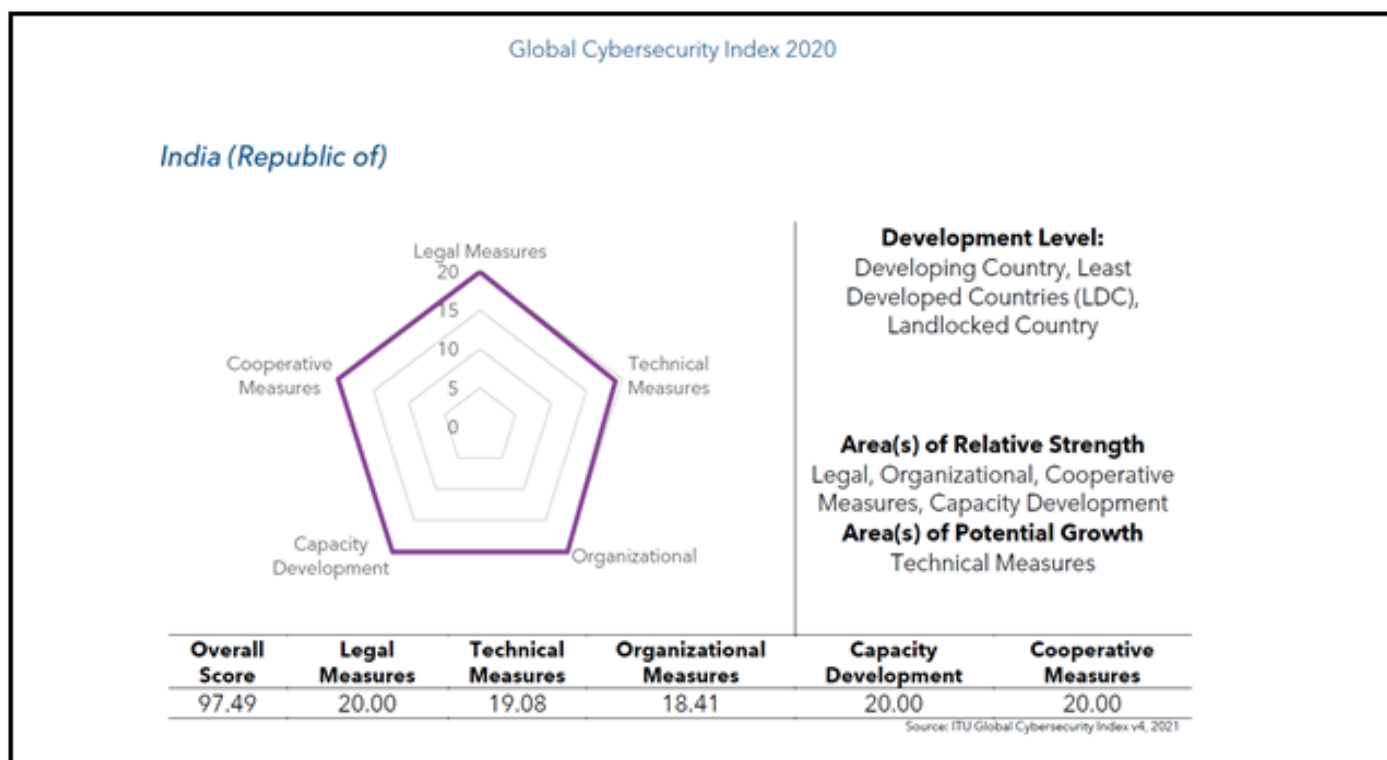
Figure 2 and 4 represent the overall scores and different measures achieved by India on the five pillars of GCI. India scored 20.00 in Legal Measures, 19.08 in Technical Measures, 18.41 in Organizational Measures, 20.00 in Capacity Development and 20.00 Cooperative Measures. The overall score of India is 97.49. The area(s) of relative strengths as highlighted by the GCI 2020 are Legal, Organizational, Cooperative Measures, Capacity Development. The area(s) of potential growth as highlighted by the GCI 2020 is the Technical Measures.

From the above it is imperative to conclude that the efforts and initiatives of the Indian government efforts are bearing fruit. The achievement of securing a position in the top ten ranking countries of the world is in itself a sign and impetus of India's growth towards becoming a superpower in the global arena. The success of India also came just in time to be celebrated along with the sixth anniversary of Digital India on July 1. Digital India is the landmark initiative by the Government of India to empower the Indian citizens to successfully avail digital services and increase digital literacy in the country.

It is therefore important to note that India is now ushering as an IT superpower in the global world, assuring its digital autonomy with firm actions in safeguarding data privacy issues and citizens' rights in the online domain. The GCI result is indicative of the same as it reflects upon the substantial growth and increase under all the parameters of the cybersecurity domain. The credit is due to the multiple initiatives taken by the Indian Government with its firm focus on enhancing national security and digitalizing the Indian Economy. These are evident from the activities and achievements of national agencies like the National Computer Emergency Response Team (CERT-In), the National Critical Information Infrastructure Protection Centre (NCIIPC) and the Indian Cyber Crime Coordination Centre (I4C).

Along with technical enhancement, India's efforts in brining cyber security legislature into the limelight can also be viewed in the drafting of Draft Personal Data Protection Bill, 2018 which is based on the recommendation of Justice BN Srikrishna Committee and aims to secure citizens' data; and National Cyber





**FIGURE 3** Overall Score and Measures of India



**FIGURE 4:** Scores and Measures of India on the five pillars of GCI

Security Strategy 2020 which is being formulated to improve cyber awareness and cybersecurity through more stringent audits.

However, since cyber space is an ever evolving field and research is still undergoing to understand its complex nature, India will have to continually grow in advancements of technology and legislature. The post-COVID era has drastically increased our dependence on digital technology which has led to a rise in number of cybercrimes globally. The digital divide further creates an unsustainable environment in the cyber domain. Therefore, India must double its efforts on bridging this gap through capacity building, procurement of latest technology, R&D innovations, and joint collaborative capabilities, global dialogues on cyber norms and laws, robust cyber security policy and centralized framework for effective inter-stakeholder coordination. ■

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