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Contemporary forms of slavery, including its causes and consequences

Note by the Secretary-General

The Secretary-General has the honour to transmit the report of the Special Rapporteur on contemporary forms of slavery, including its causes and consequences, Tomoya Obokata, in accordance with Human Rights Council resolution 51/15.

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Report of the Special Rapporteur on contemporary forms of slavery, including its causes and consequences, Tomoya Obokata

Summary

In the present report, submitted pursuant to Human Rights Council resolution 51/15, the Special Rapporteur on contemporary forms of slavery, including its causes and consequences focuses on the use of technology in facilitating and preventing contemporary forms of slavery. Following an overview of digital technologies which enable sexual or labour exploitation, the Special Rapporteur focuses on which digital tools can help to prevent or address these practices and which challenges remain in this regard. The Special Rapporteur provides conclusions and a set of recommendations for more effective prevention of contemporary forms of slavery in the digital space.

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I. Introduction

1. Technology plays a significant role in both facilitating and preventing contemporary forms of slavery. While technological advancements have created new avenues for exploitation, they have also provided tools and platforms to address these practices. In the present report, the Special Rapporteur on contemporary forms of slavery, including its causes and consequences analyses how technology affects contemporary forms of slavery, with the objective of increasing the understanding in this regard. In order to adequately and effectively address the online dimension of sexual or labour exploitation, such an understanding is essential. While the interface of technology and the sexual exploitation of children is a major issue of concern, the present report does not focus on this topic as there is a separate mandate on the sale and sexual exploitation of children.

2. To inform his research, the Special Rapporteur issued a call for input to a wide range of stakeholders, including Member States, national human rights institutions, civil society organizations, technology companies, United Nations agencies and academic institutions. He wishes to thank them for their contributions and welcomes the engagement demonstrated in this process.[1] The Special Rapporteur also drew on information gathered from desk research, consultations with stakeholders and the B-Tech Project of the Office of the United Nations High Commissioner for Human Rights.

II. Digital technologies as enablers of contemporary forms of slavery

Internet, social media and other online platforms

3. The Internet as a global platform has given access to a broader pool of potential victims who can easily be contacted in the absence of physical and geographical limitations, with devices such as smartphones and tablets opening up additional spaces for exploiters.[2] Targeted misinformation and deceit are used to recruit people online. The modus operandi of exploiters is constantly adjusted to the context and to technological resources.[3]

4. Social media platforms such as Facebook, Instagram, Line, Whatsapp, OnlyFans, Snapchat, Telegram, TikTok, VKontakte and others, as well as chat rooms, are used by traffickers and exploiters to gain trust and access to information, then recruit and follow victims through surveillance and geolocation.[4] These platforms have also significantly increased the control exercised over victims,[5] which lays the foundation for sexual and other forms of exploitation. The coronavirus disease (COVID-19) pandemic has exacerbated the pre-existing concerns in this regard, as

[1] All submissions are available at www.ohchr.org/en/calls-for-input/2023/call-input-use-technology-facilitating-and-preventing-contemporary-forms.

[2] Tatiana Akhund, Daniel Pollack and Katie Shipp, “Human trafficking and technology”, commentary, *New York Law Journal*, 1 March 2022.

[3] Submission by SICAR cat et al.

[4] Submissions by Chile, Ecuador, Mexico, Russian Federation, Sovereign Order of Malta, CATWA, Facts and Norms, and Hope for Justice; and consultation with youth leaders.

[5] Akhund, Pollack and Shipp, “Human trafficking and technology”.; and submissions by Australia, Spain, and United Nations Office on Drugs and Crime (UNODC).

more people gained access to the Internet through remote learning and other online activities.[6]

5. In terms of the profile of potential and actual victims, while empirical research highlights their heterogeneity and the fact that anyone can be victimized, it has been noted that women of low economic status, including migrants, are more likely to be groomed online.[7] The extent of exploitation among men and gender-diverse people is not entirely clear, but there is emerging research in this regard.[8] Children and adolescents are also at a particular risk, as they may not be fully aware of the danger surrounding exploitation and abuse in cyberspace and can also be influenced or controlled by traffickers or exploiters easily.[9] In addition, it has been pointed out that people with mental illness or intellectual disability are more likely to be deceived and exploited in cyberspace.[10]

6. Once recruited, victims are exploited in a variety of contemporary forms of slavery. Commercial sexual exploitation is a clear example. Online advertisements have increased exponentially over the course of time, generating a large sum of profits in the industry, but many instances clearly amount to exploitation and abuse.[11] Hobby platforms, for example, are known to be used to lure clients for offline sexual exploitation.[12] A common pattern is that, initially, grooming takes part online, then victims are subjected to sexual and other forms of exploitation offline. Technology has also enabled the exploitation of victims through live streaming in recent times.[13] The Internet has become a control mechanism, for example, for blackmailing victims into prostitution, pornography, escort services, forced marriage and sexual slavery.[14] It is important to highlight, however, that these exploitative practices are often conflated with sex work, which has resulted in online monitoring that cites the number of online advertisements for female escort services as evidence for technology-facilitated instances of contemporary forms of slavery.[15]

7. Labour exploitation is also facilitated via Internet and social media platforms such as Tiktok, Facebook and Instagram, as well as videogames. The pattern is similar to commercial sexual exploitation as the recruitment of victims takes place through fake online job advertisements promising attractive working conditions and wages without the need for education or qualifications.[16] Legitimate job recruitment websites are often used to advertise these, making it more likely for victims to trust them.[17] Once recruited, victims experience exploitation, which may amount to forced labour or servitude in sectors including agriculture, domestic work and hospitality, as has been observed in States including Brazil, Italy, Kenya and the Republic of

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[6] Organization for Security and Cooperation in Europe (OSCE), Office of the Special Representative and Coordinator for Combating Trafficking in Human Beings and Tech against Trafficking, *Leveraging Innovation to Fight Trafficking in Human Beings: A Comprehensive Analysis of Technology Tools* (Vienna, 2020); and submission by Freedom Collaborative.

[7] Submissions by Ecuador, CATWA, and Hope for Justice.

[8] Submissions by Mexico and Spain. Research is undertaken by Urban Light in northern Thailand, for example (see submission by Freedom Collaborative).

[9] Consultation with youth leaders.

[10] Submission by Spain.

[11] Submission by UNODC.

[12] United States of America, US Government Accountability Office, *Sex Trafficking: Online Platforms and Federal Prosecutions* (2021).

[13] Submission by UNODC.

[14] Submissions by Equality Now, Hope for Justice, Pourakhi, and SICAR et al.

[15] Sanja Milivojevic, Heather Moore and Marie Segrave, “Freeing the modern slaves, one click at a time: theorizing human trafficking, modern slavery, and technology”, *Anti-Trafficking Review*, vol. 14 (2020).

[16] Submissions by Pourakhi and SICAR.

[17] Consultation with youth leaders.

Moldova, and the Gulf region, among others.[18] Another example of labour exploitation involves online fraud where individuals from special economic zones in the Indo-Pacific region, such as Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand and the Philippines, are recruited.[19] These "scammers" are instructed to cold-contact random people across the world through SMS texting, social media, dating and communication platforms for fraud and other criminal activities.[20] Many of these workers reportedly have to work long hours with insufficient wages, face strict control through surveillance and are not permitted to leave the compound, their passports having been confiscated by exploiters.[21]

8. While there may be some regional differences regarding online recruitment, the tendency of using the Internet and social media platforms to lure victims into sexual or labour exploitation is also increasing in countries with a relatively low Internet penetration rate, such as the Gambia (19 per cent) or Mauritania (63 per cent).[22] In the Democratic Republic of the Congo, the armed conflict created a conducive environment for exploitation of vulnerable persons and communities. In this regard, facilitation of sexual slavery and forced marriage via WhatsApp has been reported in Kinshasa and in neighbouring Rwanda.[23]

Artificial intelligence

9. While artificial intelligence can be used to prevent contemporary forms of slavery, it could also facilitate these practices. For example, ChatGPT and other artificial intelligence-generated tools can be applied to generate deceptive materials, including impersonation of trusted individuals, to lure victims into labour or sexual exploitation.[24] It has also been reported that adult entertainment companies are using artificial intelligence to create computer-generated imagery versions of actual persons by using their biometric data without their consent or knowledge and these so-called "deepfakes" are posted on their website to attract clients.[25] A major concern in this regard is that the volume of fake images is obstructing the search for victims and the fight against actual instances of abuse and exploitation, including of children. Existing tracking systems could be confused by the fake images, overwhelming law enforcement entities owing to the difficulties in differentiating between real or fake images.[26] Furthermore, it should be pointed out that there are risks of forced labour in the artificial intelligence supply chain, as machine learning[27] involves a large workforce to process data. There has been an allegation in this regard that OpenAI

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[18] Submission by Australia, Bolivia, Maat for Peace Walk Free; European Union Agency for Criminal Justice Cooperation, "Nearly 90 victims saved from severe labour exploitation in Italy", 4 September 2021; Equality Now, "Expert interview: Mohamed Daghar (Kenya)", in *Ending Online Sexual Exploitation and Abuse of Women and Girls: A Call for International Standards* (Equality Now and others, 2021); and communications Nos. KWT 1/2020, OTH 44/2020, OTH 45/2020, SAU 7/2020 and OTH 43/20.

[19] Submissions by Freedom Collaborative, GAATW and Hope for Justice.

[20] Submission by Australia.

[21] Submission by GAATW and Hope for Justice.

[22] Ashnan Kalemera and Simone Toussi, "Leveraging the digital space to combat human trafficking in DR Congo, the Gambia and Mauritania", CIPESA, 20 August 2021.

[23] Ibid.

[24] European Union Agency for Law Enforcement Cooperation, *ChatGPT: The Impact of Large Language Models on Law Enforcement*, Tech Watch Flash Report (Luxembourg, Publications Office of the European Union, 2023); and submission by Phil Bennett.

[25] Submission by York Centre for Applied Human Rights.

[26] Matthias Bastian, "AI-generated child abuse images pose new problems for investigators", The Decoder, 21 June 2023.

[27] Machine learning is a branch of artificial intelligence (AI) and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy.

has used outsourced Kenyan nationals to improve the performance of ChatGPT, paying them less than $2 per hour.[28]

Cryptocurrency

10. The use of cryptocurrency in the trade of child sexual abuse materials and, in reaction, the takedown of websites by law enforcement agents has made headlines in recent times.[29] In addition, perpetrators and their customers have increasingly been turning to cryptocurrency, including Bitcoin, to buy and sell individuals, as many credit card companies are blocking transactions on websites that are suspected of facilitating sexual and labour exploitation.

11. As nearly all cryptocurrency is decentralized and the sector is unregulated and difficult to trace, it is used to launder illegal profits generated from contemporary forms of slavery.[30] While blockchain technology has the potential to prevent this as it traces transactional data,[31] it has been noted that criminals can still avoid detection by allocating funds to many actors within a criminal network, or converting it to different financial assets.[32] Cryptocurrencies are also used by perpetrators to purchase Internet domains and other platforms to recruit victims and clients, and by customers to purchase premium memberships on review board websites previously used to trade sexual abuse materials.

III. Digital technologies as a means of preventing or addressing contemporary forms of slavery

Blockchain technology to increase transparency in supply chains

12. Blockchain, a decentralized and transparent electronic ledger system, can enhance supply chain transparency and prevent labour exploitation. The information contained in the system, which may include employment contracts, salary agreements, migration details, passports and visa arrangements related to recruitment, is shared with all users and cannot be altered once entered. Blockchain technology is especially useful for compartmentalizing large quantities of information with a high level of accuracy. [33] The immutability of information stored in the blockchain ensures that documents are both tamper-free and accessible to employers, workers and any supervising agency.[34] Consequently, the complex supply chains of global corporate brands can be monitored more effectively, which significantly increases the value of insights compared with online monitoring techniques.[35]

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[28] The allegation was raised through an investigation conducted by Time magazine, see Billy Perrigo, “Exclusive: OpenAI used Kenyan workers on less than $2 per hour to make ChatGPT less toxic”, *Time*, 18 January 2023.

[29] International Centre for Missing and Exploited Children and Standard Chartered Bank, “Cryptocurrency and the trade of online child sexual abuse material”, February 2021.

[30] Submission by York Centre for Applied Human Rights; and Jane Khodarkovsky, April N. Russo and Lauren E. Britsch, “Prosecuting sex trafficking cases in the wake of the back page takedown and the world of cryptocurrency”, *Department of Justice Journal Federal Law and Practice*, vol. 69, No. 3 (May 2021).

[31] Rights Lab, “Cryptocurrency and combating modern slavery in the financial sector”, 2022.

[32] Submission by York Centre for Applied Human Rights; and OSCE, *Leveraging Innovation to Fight Trafficking*.

[33] Submission by ICA.

[34] Katherine L. Christ and Christine V. Helliar, “Blockchain technology and modern slavery: reducing deceptive recruitment in migrant worker populations”, *Journal of Business Research*, vol. 131 (July 2021).

[35] Ibid.

13. There are some examples in relation to blockchain technology in supply chains designed to enhance transparency and detect labour exploitation. The World Wildlife Fund in Australia, Fiji and New Zealand is attempting to eliminate illegal fishing and forced or bonded labour in the tuna fishing industry with blockchain technology. Through a QR code on tuna tins, consumers are able to learn if the tuna had been sourced sustainably and ethically.[36] The "Tag Alinha" initiative in the textile sector of Brazil brings together reports from textile workers about their working conditions, including their wages. The supply chain of each piece of clothing is published on a website accessible by consumers via a six-digit code that appears on the label of the purchased item.[37] In addition, the business "Lumachain" uses blockchain technology to make food production and manufacturing more transparent and to track and trace the origin, location and condition of individual items in the food supply chain.[38]

14. Blockchain technology has also been used to enhance support and protection systems for victims of contemporary forms of slavery. In Spain, for example, a digital wallet using the technology has been developed between academia and the United Nations Children's Fund (UNICEF) in the framework of a project on strengthening support and protection systems for victims of trafficking of persons in Europe.[39] The main aim has been to bring about a systemic change in the prevention of trafficking in persons and the protection of victims through the implementation of a "data culture." To that end, the digital wallet makes it possible to securely store and share relevant data on victims through the creation of a digital identity.[40] Such technology eliminates the need to have paper documentation such as passports, which is particularly beneficial for victims of human trafficking or displaced persons, who are not often in possession of identity documents.[41] Confiscation of identity documents by employers or criminals as a means to exercise control over victims also becomes irrelevant.[42]

Data analysis and artificial intelligence

15. Artificial intelligence and data analysis can help identify patterns and hotspots where contemporary forms of slavery are prevalent. By analysing various data sources, such as social media, financial transactions, labour market information and satellite imagery, artificial intelligence algorithms are able to detect potential indicators of slavery-like practices, such as exploitative working conditions, debt bondage or human trafficking routes. As an example, indicators of contemporary forms of slavery were identified through the GeoAI platform, developed by the Rights Lab and the United Nations Development Programme, which aims at guiding action on brick kilns that do not comply with environmental and labour regulations. The platform displays tens of thousands of brick kilns, and an accompanying mobile app is used by inspectors to select specific kilns for ground-level inspection, making it more targeted and effective.[43]

16. Artificial intelligence and data mining applications can also be used to identify suspicious financial transactions or money laundering arising from contemporary

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[36] Yolanda Redrup, "WWF develops blockchain solution to improve transparency in tuna industry", *Financial Review*, 7 January 2018; and Ed Lewin, "Technology can help us end the scourge of modern slavery. Here's how", World Economic Forum, 1 April 2019.

[37] Submission by Facts and Norms.

[38] Submission by Australia.

[39] Universidad Pontificia de Comillas and United Nations Children's Fund, *Cultura de Datos en la Trata de Seres Humanos: Informe Técnico de Investigación* (2022), p. 14. See also submission by Spain.

[40] Ibid.

[41] Mekong Club, "Using blockchain to combat modern slavery", 2018, p. 6.

[42] Ibid.

[43] Submission by Rights Lab.

forms of slavery. Financial technology tools, such as advanced payment systems, represent a good example. In Austria, Erste Bank has, for example, begun the automatic monitoring of suspicious credit card activities conducted via known human trafficking routes in order to obtain indications of possible exploitation.[44] Similarly, Finance Against Slavery and Trafficking, a multistakeholder initiative, has developed an indicator model for automated transaction monitoring that is widely being shared with the financial industry.[45]

17. Another area where artificial intelligence and data analysis can have a promising impact is in the promotion of supply chain transparency by tracing the origin of goods and monitoring their journey through each stage of production. Through algorithms, artificial intelligence analyses large data sets related to suppliers, manufacturers and distributors, and potential instances of forced labour or other human rights abuses in the supply chain can be identified. In this regard, a software known as Forced Labour Risk Determination and Mitigation developed by the non-profit organization Made in a Free World[46] uses machine-learning and algorithms to detect indicators of forced labour at each level of production. Digital product passports, currently being considered by the European Union, also have potential as they aim to provide and analyse such data. While they are mainly aimed at promoting environmentally sustainable products in supply chains,[47] their application to identify instances of contemporary of slavery and other human rights abuses has been recognized.[48]

18. In addition, the identification of perpetrators of contemporary forms of slavery can be facilitated by data analysis techniques, such as text and image recognition. Facial recognition is a case in point. It is an artificial intelligence-powered tool that analyses facial images from relevant databases, such as in the context of border control. This is often combined with natural language processing.[49] This technique can be applied to identify and analyse textual and image cues from advertisements for jobs and sexual services that may contain indicators of exploitation, such as third person voices, obscured faces, photographs and phrases. For example, artificial intelligence powered stylometry and the software Spotlight recognize language patterns in advertisements and can identify possible authors who may be directly involved in contemporary forms of slavery.[50] A similar initiative has been developed in Spain through a joint initiative led by the National Police, civil society and academia.[51]

19. Furthermore, data analysis and artificial intelligence can facilitate victim identification and protection. “Traffic Jam”, developed by Marinus Analytics, is a good example.[52] Between 2018 and 2021, the tool helped to identify over 6,800 victims[53] and is reportedly used by over 80 law enforcement agencies globally,[54] demonstrating a positive example of public-private partnership to prevent contemporary forms of slavery and protect their victims. Another promising initiative

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[44] Submission by FAST.

[45] Ibid.

[46] See https://madeinafreeworld.org/.

[47] European Commission, “A new circular economy action plan for a cleaner and more competitive Europe”, COM(2020) 98 final, 11 March 2020.

[48] Thomas Göetz and others, “Digital product passport: the ticket to achieving a climate neutral and circular European economy?”, 2022, p. 12.

[49] Submission by York Centre for Applied Human Rights.

[50] Dutta Mondira, “Role of technology in combatting human trafficking”, *Bulletin of the Karaganda University*, History Philosophy Series, vol. 3, No. 9 (2020). See also www.thorn.org/spotlight/.

[51] Submission by Spain.

[52] OSCE, *Leveraging Innovation to Fight Trafficking*, p. 45; and submission Phil Bennett.

[53] Marinus Analytics, “Traffick jam: AI solutions to fight human trafficking”, brochure, 2021.

[54] See www.marinusanalytics.com/traffic-jam.

is a project known as RESTART, which uses an artificial intelligence application (Honeycomb), including its natural language capabilities, to identify the needs of victims through an analysis of testimonies provided by them.[55] This in turn will allow public authorities and other actors to put in place appropriate protection and assistance measures, thereby promoting a victim-centred and participatory approach.

20. Overall, artificial intelligence solutions and related data analytical tools can promote more effective allocation of scarce public sector resources, discover potentially useful patterns in data and predict trends that inform future strategies. Artificial intelligence can bring cost and efficiency benefits, as rapid assessments of a range of data can ensure more effective interventions in real time.[56] However, in using this technology there have been multiple instances of racial or gender bias and inaccurate identification of targets.[57] Therefore, artificial intelligence must be approached with caution, strict safeguards and oversight and after undertaking a due diligence process to assess the impact of the tools intended to use on human rights, including contemporary forms of slavery.[58]

Satellite remote sensing

21. Satellite remote sensing has the potential to address and prevent contemporary forms of slavery by providing critical information and insights. Satellites can monitor remote areas where access could be difficult and can identify activities that indicate the potential prevalence of contemporary forms of slavery. As an example, the movement of fishing vessels has been tracked through remote sensing and cross-referenced with information on labour conditions to identify instances of forced labour in Asia and the Pacific.[59] Earth observation data and geospatial analysis have also established a correlation between mining, illegal logging, agriculture and contemporary forms of slavery.[60] Similarly, brick production has been monitored through satellites in countries such as Bangladesh, India, Nepal and Pakistan.[61]

22. Remote sensing can also be applied to identify unusual human settlements, makeshift shelters or large groups of workers in isolated areas that may constitute indicators of contemporary forms of slavery. In southern Greece, for example, the technology was used to identify 50 informal settlements hosting migrant workers in the strawberry production area. The information was then analysed in order to evaluate the risk of labour exploitation, and a data-driven prioritization of interventions against labour exploitation was undertaken.[62] While the data obtained through remote sensing may not necessarily identify actual instances of labour exploitation in all cases, it provides an overview of high-risk areas that can inform policy responses, investigations and prevention efforts.[63]

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[55] Submission by Trilateral.

[56] Ibid.

[57] James Manyika, Jake Silberg and Brittany Presten, “What do we do about the biases in AI?”, *Harvard Business Review*, 25 October 2019.

[58] CTOC/COP/WG.4/2021/2, para. 41.

[59] Submission by Rights Lab.

[60] Todd Landman, “Measuring modern slavery: law, human rights, and new forms of data”, *Human Rights Quarterly*, vol. 42, No. 2 (May 2020).

[61] Submission by Rights Lab.

[62] Ioannis Kougkoulos and others, “A multi-method approach to prioritize locations of labour exploitation for ground-based interventions”, *Production and Operations Management*, vol. 30, No. 12 (December 2021).

[63] Landman, “Measuring modern slavery”.

Digital platforms, mobile apps, social media and other tools

23. Although they have been misused to promote contemporary forms of slavery, social media, mobile apps, online platforms and other digital communication channels can simultaneously play a crucial role in preventing and addressing these practices. For one, they can raise awareness about exploitation and abuse among potential and actual victims, as well as stakeholders who may come in contact with them, when they are employed at an early stage of recruitment.[64] Freedom Signal, for example, is an online app that enables direct service organizations to send targeted, text-based outreach to potential victims of online sexual exploitation.[65] Another example is the Work Right Hub, an online platform that has been developed to empower migrants, front-line responders and service providers across Australia. The initiative aims at preventing labour exploitation by using online resources to strengthen capacity to identify signs of exploitation and seek recourse.[66]

24. Multiple digital tools have been developed to facilitate the reporting of instances of contemporary forms of slavery and receive assistance. In the Democratic Republic of the Congo, a civil society organization, Ulula, and the International Peace Information Service have been leveraging communication technology to enable anonymous reporting of human rights violations, including labour-related risks in the informal and formal mining sector. Allegations are then followed up on by a network of over 20 local civil society organizations who coordinate their actions with private and public sector partners to facilitate investigation and protection.[67] The Proyecto Esperanza in Spain runs a 24-hour hotline for victims of contemporary forms of slavery who wish to confidentially seek assistance,[68] and many women and girls who had been forced into marriage in China reportedly used social media channels such as WeChat and Facebook to seek and obtain support from civil society actors and Governments.[69] In addition, local civil society organizations, including Blue Dragon in Viet Nam and Kachin Women's Association in Thailand run several programmes teaching women and girls how to use WeChat to contact the police and report exploitation or abuse in China.[70]

25. Moreover, Governments have developed digital tools to prevent contemporary forms of slavery or to gather information about these practices in order to respond more effectively. In Brazil, the Statistics and Information Dashboard of Labour Inspection generates information regarding regions and economic activities that are susceptible to forced labour. The integration of data allows labour inspectors not only to monitor and act upon received complaints, but also proactively to take preventive action. For example, as there is a greater risk of forced labour during the coffee harvest in certain municipalities of Minas Gerais, an improved system or process could issue warnings to local labour inspectors to take action in a timely manner.[71] Another example is a virtual reality headset developed by the French central office against illegal work for the purpose of training law enforcement officers and judges on labour exploitation. Through this tool, the real-life conditions of victims are displayed.[72]

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[64] Submission by Commonwealth 8.7 Network.
[65] See www.freedomsignal.org/.
[66] Submission by Australia.
[67] Submission by Commonwealth 8.7 Network.
[68] Submission by SICAR et al.
[69] Global Initiative against Transnational Organized Crime, "Cambodia's trafficked brides: the escalating phenomenon of forced marriage in China", May 2022.
[70] Submission by TAT; and Global Initiative against Transnational Organized Crime, "Cambodia's trafficked brides".
[71] Submission by Facts and Norms.
[72] Submission by CCEM.

Multi-sector approaches

26. Multi-stakeholder cooperation is essential to establish industry standards, increase transparency and ensure that slavery-related risks are effectively addressed. There are several encouraging examples in this regard. A coalition of global technology companies, civil society organizations and the United Nations established "Tech Against Trafficking," a collaborative effort to develop technology-based solutions that address contemporary forms of slavery and support victims through innovation and information-sharing.[73] In 2019, the Tech Against Trafficking Accelerator Program was launched, and five company members – Amazon, Google, Meta, Microsoft and Salesforce – have committed to working with anti-trafficking experts to identify and support opportunities to develop, improve and help scale the use of promising technologies that assist victims, law enforcement, business and civil society.[74] Tech Against Trafficking also established an interactive map of 300 anti-trafficking tech tools for awareness-raising and advocacy.[75]

27. One example of a regional response to address the intersectionality between technology and contemporary forms of slavery is the Bali Process on People Smuggling, Trafficking in Persons and Related Transnational Crime, a regional platform for policy dialogue, information-sharing and practical cooperation on these issues. It includes 45 member Governments, as well as the Office of the United Nations High Commissioner for Refugees, the International Organization for Migration, the United Nations Office of Drugs and Crime (UNODC) and the International Labour Organization.[76] Ways to enhance practical cooperation with the digital industry, including potential collaboration to promote information on the risks of online exploitation, are regularly explored, and the development of indicators specific to online exploitation is currently being considered.[77]

28. Moreover, the HEROES consortium, consisting of 24 partners located in 17 countries, is another multisector approach. The European Union-funded project explores how to use the latest technological advances and new strategies to prevent and address child sexual abuse and trafficking in persons. In this context, it aims at establishing an interdisciplinary, international and victim-centred approach, aiming to coordinate its engagement with law enforcement agencies to enhance the protection of victims.[78]

IV. Overview of State responses

29. States have responded in different ways to the rapidly evolving strategies and technologies used by exploiters. Law enforcement agencies, for instance, have used the same criminal justice tools in an attempt to identify perpetrators of online exploitation, including online raids.[79] Although many States do not yet have a reference to technology in their domestic anti-slavery legislation, an increasingly number of them refer to the prevention of sexual exploitation and other criminal conduct committed through cyberspace. The Penal Code of Spain in this regard criminalizes human trafficking and sexual exploitation[80] and the distribution of

[73] Submission by TAT.
[74] See https://techagainsttrafficking.org/accelerator-program/; and www.bsr.org.
[75] Submission by FAST.
[76] Submission by Australia.
[77] Ibid.
[78] See https://heroes-fct.es.
[79] Submission by Hope for Justice.
[80] See Spain, Penal Code, Organic Law 10/1995 of 23 November 1995, arts. 177, 187 and 188. See also submission by Spain.

content specifically intended to promote, encourage or incite the commission of crimes online,[81] and Organic Law 10/2022 of 6 September 2022 on the comprehensive guarantee of sexual freedom similarly contains several articles specifically focused on sexual exploitation in the digital sphere.[82]

30. However, close consideration should be given to the potential unintended consequences of legislative and policy responses to contemporary forms of slavery. For instance, technology-mediated surveillance has been applied by law enforcement and other entities to "protect" potential victims and "rescue" those identified as victims of contemporary forms of slavery. However, surveillance in the context of anti-slavery efforts has been used in some countries to disproportionately scrutinize specific individuals, including those who intend to migrate abroad. This has affected in particular women, among them sex workers.[83] Examples for this are the Allow States and Victims to Fight Online Sex Trafficking Act and the Stop Enabling Sex Traffickers Act, introduced in the United States of America in 2017, which established criminal penalties for those who promote or facilitate sex trafficking and sex work through online platforms.[84] Reportedly, the Acts have negatively affected sex workers by placing greater pressure on platforms to censor users, thereby removing safer spaces for sex workers to communicate and reduce their risk of harm, while increasing their risk of violence and poverty.[85]

31. Other countries have taken measures to enhance control over social media, other digital platforms and artificial intelligence. In this regard, the 2021 Online Safety Act in Australia established an eSafety commissioner who, among other duties, may issue a removal notice to social media service providers, hosting service providers or end users, to remove cyberabuse materials.[86] While a positive step, content removal alone is not enough to prevent online abuse. Similar legislation has been proposed elsewhere, including the United Kingdom of Great Britain and Northern Ireland: the online safety bill[87] includes measures to regulate harmful material while maintaining a free and open online environment. However, experts note potential issues related to enforcement given the broad scope of the proposed law and argue that it should be amended to reduce the risk of unintended harmful impacts on human rights online.[88] In addition, the Plurinational State of Bolivia elaborated a "strategy for the control and responsible and safe use of digital platforms" that was implemented in coordination with civil society organizations since 2022,[89] and Chile is currently developing a new national cybersecurity policy, seeking to ensure the confidentiality and integrity of information exchanged on the Internet.[90] In Brazil, the Congress is reviewing a bill (PL 21/2020) that intends to regulate the use of artificial intelligence in the country.[91]

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[81] See Spain, Penal Code, Organic Law 10/1995 of 23 November 1995, art. 189.

[82] See Spain, Organic Law, 10/2022 of 6 September 2022, art. 3.1. See also submission by Spain.

[83] Ibid.

[84] United States, Allow States and Victims to Fight Online Sex Trafficking Act of 2017, Public Law No. 115-164; United States, Stop Enabling Sex Traffickers Act of 2017; US Government Accountability Office, *Sex Trafficking: Online Platforms and Federal Prosecutions*; and Danielle Blunt and Ariel Wolf, "Erased: the impact of FOSTA-SESTA and the removal of the backpage", *Anti-Trafficking Review*, vol. 14 (2020), pp. 9–12.

[85] Submission by Walk Free.

[86] Australia, Online Safety Act, No. 76, 2021; and submission by Australia.

[87] United Kingdom of Great Britain and Northern Ireland, Online Safety Bill, HL Bill 151, 2023.

[88] Article 19, "UK: Online Safety Bill is a serious threat to human rights online", 25 April 2022; and Louise Popple, "Online Safety Bill – are you caught?", Taylor Wessing, 13 June 2022.

[89] Submission by the Plurinational State of Bolivia.

[90] Submission by Chile.

[91] Submission by Facts and Norms.

32. Regional bodies such as the European Union have strengthened cooperation between law enforcement entities among member States to more effectively address challenges related to contemporary forms of slavery and trafficking in persons. A first online hackathon against trafficking in persons, supported by the European Union Agency for Law Enforcement Cooperation (Europol) and the European Union Agency for Criminal Justice Cooperation (Eurojust) took place in September 2022. It involved law enforcement authorities from 20 countries and targeted criminal networks using websites and social media platforms to recruit victims for sexual exploitation. Exchange of knowledge, expertise and technology in the context of international cooperation to address online exploitation is essential, as it can foster new approaches to investigations.

33. At the multilateral level, on 26 May 2021, the General Assembly adopted resolution 75/282, entitled "Countering the use of information and communications technologies for criminal purposes." Subsequently, steps have been taken towards the elaboration of an international convention on countering the use of information and communications technologies for criminal purposes. Potentially, the future convention could be an important instrument for the prevention of contemporary forms of slavery in cyberspace. It is important, however, that the instrument be grounded in international human rights law, with due regard paid to issues such as due process and the right to privacy.

V. Need for stronger human rights due diligence among technology companies

34. The United Nations Guiding Principles on Business and Human Rights [92] represent the authoritative global standard for preventing and addressing human rights harms, including contemporary forms of slavery, connected to business activities, and these apply to the technology sector.[93] They offer a principled and pragmatic framework that can be applied globally, allowing the positive impact and opportunities of technological innovation to flourish in a rights-respecting ecosystem.[94] States are called on to adopt a "smart mix" of voluntary and mandatory measures to require companies, including in the technology sector, to respect human rights.[95] In this regard, a number of countries are adopting human rights due diligence laws with sufficient scope to cover digital platforms. For example, the 2017 Duty of Vigilance Act in France, the 2021 Act on Corporate Due Diligence Obligations in Supply Chains in Germany and the proposed European Union corporate sustainability due diligence directive[96] go beyond due diligence in business operations and supply chains and require companies to consider human rights risks across the entire value chain. In the context of evolving digital technologies, which carry the potential to create wide-reaching adverse impacts, this is essential.[97]

35. Regardless of the existence of national legislative or regulatory frameworks, technology companies should conduct human rights due diligence to prevent their technologies from being used to promote contemporary forms of slavery. As a starting point, businesses should create clear and detailed human rights due diligence policy with a specific focus on contemporary forms of slavery, then identify and assess the

[92] A/HRC/17/31, annex.
[93] A/HRC/50/56, para. 8.
[94] Office of the United Nations High Commissioner for Human Rights, B-Tech, "The UN Guiding Principles in the Age of Technology", September 2020.
[95] A/HRC/50/56, para. 15.
[96] Council of the European Union, "Council adopts its position on due diligence rules for large companies", 1 December. 2022.
[97] Submissions by Walk Free and Curtin University.

risks of their technologies being used to facilitate these practices. In this regard, establishing robust internal monitoring mechanisms with staff with expert knowledge and experience, as well as reporting channels for users of their technologies, would be needed. Once risks are identified, technology companies should mitigate them by removing content and accounts aimed at promoting contemporary forms of slavery and assist law enforcement authorities with criminal investigations. The Special Rapporteur also regards it as necessary that technology companies play a proactive role in promoting access to justice and remedies for victims in closer coordination and cooperation with public authorities, civil society organizations and other relevant stakeholders. A multi-stakeholder approach to victim protection and assistance is needed to this end.

36. The Special Rapporteur is encouraged by some promising emerging practices aimed at strengthening human rights due diligence. Google is said to host multiple channels for their employees and users to report concerns over the linkage between online content and contemporary forms of slavery, leading to investigations and further actions taken by a dedicated anti-slavery team.[98] Tiktok automatically directs users who type in certain words associated with human exploitation to expert resources provided by the civil society organization Stop the Traffik, with a view to raising awareness and facilitating reporting and investigation.[99] For victim identification and protection, the company Telefónica and the United Nations Global Compact network in Ecuador have rolled out the app "Here I am and here I act", which helps identify instances of child labour by geo-locating victims.[100] In Bihar, India, Meta operates a WhatsApp helpline that allows reporting of labour exploitation in English, Hindi and Magahi.[101] Despite these initiatives, there is much scope for a proactive role by technology companies as it is the fact that their products continue to be used to promote contemporary forms of slavery.

VI. Remaining challenges

37. While technology offers significant potential in eliminating contemporary forms of slavery, there are a number of challenges and limitations that need to be carefully considered and addressed. To begin with, legislative and regulatory frameworks are weak or non-existent in a number of areas. Online grooming is an example in this regard. States such as Canada,[102] Costa Rica,[103] the Netherlands (Kingdom of the),[104] the Philippines,[105] South Africa[106] and the United Kingdom[107] have legislation on grooming, but many others do not. Similarly, around 15 per cent of States Members of the United Nations do not have legal or regulatory frameworks on data protection.[108] Only a handful of States, including the Bahamas, Bahrain, Estonia, Japan, Malaysia, Singapore and the United Arab Emirates, have legislative or

[98] Submission by Google.
[99] Kevin Morgan, "An updated on our work to tackle human exploitation", Tik Tok, 7 March 2023.
[100] Submission by Ecuador.
[101] Submission by TAT.
[102] Canada, Criminal Code of 1985, sect. 172.1.
[103] Costa Rica, Criminal Code of 1970, sect. 167.
[104] The Kingdom of the Netherlands, Criminal Code of 1881, sect. 248e.
[105] The Philippines, Anti-Online Sexual Abuse or Exploitation of Children (OSAEC) and Anti-Child Sexual Abuse or Exploitation Materials (CSAEM) Act, Republic Act No. 11930, 30 July 2022.
[106] South Africa, Criminal Law (Sexual Offences and Related Matters) Amendment Act, No. 32 of 2007.
[107] United Kingdom, Sexual Offences Act 2003, sect. 15.
[108] United Nations Conference on Trade and Development, Data Protection and Privacy Legislation Worldwide database, available at https://unctad.org/page/data-protection-and-privacy-legislation-worldwide.

regulatory frameworks over cryptocurrency,[109] and more efforts are needed by States to regulate the use of social media and artificial intelligence. Although important issues such as privacy and freedom of speech should be carefully balanced before any action is taken, a lack of strong legislative or regulatory frameworks makes it difficult to establish accountability in case of any human rights abuses and can also create safe havens for criminals. Varied responses at the national level also leads to challenges in facilitating international criminal justice cooperation. This raises a question as to whether international technical standards should be developed at least in some areas that require urgent attention, such as the regulation of cryptocurrency or artificial intelligence in order to promote mutual trust and a degree of harmonization of domestic legislative and regulatory frameworks.

38. There is also a risk that anti-slavery efforts are outpaced by the effects and consequences of technological advances. The adaptability by perpetrators to the rapidly changing technological environment cannot be underestimated. They are increasingly relying on technologies, such as encrypted communication channels, coded language and covert platforms, in order to avoid law enforcement.[110] In this regard, so-called "darknets" and virtual private networks are used to store and conceal harmful materials, such as advertisements for commercial sexual exploitation of children and adults, and to buy, sell and exploit victims.[111] When one platform or website is shut down, a new one will be created soon afterwards, continuing the cycle of victimization. Digital technologies such as artificial intelligence and blockchain may also be exploited by these sophisticated criminals to their advantage.

39. Law enforcement and other public authorities, in turn, are not always well equipped or trained to identify instances of contemporary forms of slavery in cyberspace and effectively hold offenders accountable.[112] Identifying human rights abuses, such as contemporary forms of slavery online, requires adequate financial, human and other resources. However, this is not always prioritized, with the result that law enforcement and other public authorities depend on other stakeholders to obtain intelligence. Limited digital literacy or technical capacity can also lead to a poor understanding of their role in preventing or addressing contemporary forms of slavery occurring in cyberspace. This also undermines ongoing efforts to identify and protect victims in a timely manner.[113]

40. While acknowledging various promising initiatives that are being implemented already, the Special Rapporteur considers that technology companies should also enhance their efforts in ending the facilitation of contemporary forms of slavery through their platforms or products. Most digital platforms are said to have content removal policies in place, but serious concerns remain regarding insufficient resources being allocated internally to implement these policies effectively.[114] The fact that a large or potentially even a growing number of victims are still recruited and exploited through cyberspace supports these concerns. Technology companies should also do more to raise awareness among users of their platforms and products about the danger of exploitation though cyberspace, create user-friendly reporting

[109] Price Waterhouse Coopers, *PwC Global Crypto Regulation Report 2023* (2022), pp. 7–8.

[110] Submissions by Spain, UNODC, Australian Human Rights Commission, CATWA, Equality Now and Sovereign Order of Malta; and *Global Report on Trafficking in Persons 2022* (United Nations publication, 2022), pp. 70–72.

[111] Submissions by Australian Human Rights Commission, Sovereign Order of Malta, and UNODC; and Stop the Traffic, "Human trafficking and the Darknet: insights on supply and demand", October 2018.

[112] Submissions by Israel and Spain; and A/HRC/50/56, para. 60.

[113] Submission by Equality Now.

[114] Consultation with youth leaders; and submissions by Walk Free, Equality Now, Ecuador, and Facts and Norms.

mechanisms and reach out to victims to facilitate timely access to justice and remedies. Active complicity in facilitating exploitation from certain segments of the industry, such as pornography or advertisements for short-term jobs, is also a clear challenge that must be tackled as a matter of priority.[115] These factors once again call for stronger human rights due diligence among technology companies.

41. Another challenge relates to data protection. Many of the technology tools developed to counter and prevent contemporary forms of slavery collect, store and analyse a large volume of sensitive data, including personal information of victims and exploiters, such as their real facial images, names, addresses, telephone numbers and credit card or bank account information. Such data can be obtained illegally through cyberattacks or fraud and misused by traffickers and exploiters to their advantage. This underscores the need to tighten cybersecurity by establishing sufficient safeguards against the mishandling of such information. Also, while the promotion of intelligence-led law enforcement with the use of surveillance and other technologies to identify the perpetrators and victims of contemporary forms of slavery may be reasonable, the collection of evidence on their criminal activities must also comply with existing international human rights standards, in particular those relating to the right to privacy.[116] These include a clear legal basis, necessity, proportionality, robust independent oversight over law enforcement powers, as well as securing access to justice and remedies in case of a breach.[117] Intelligence gathering must also be free from gender, racial or other bias in order not to stigmatize particularly vulnerable victims of contemporary forms of slavery, such as women, children, minorities, Indigenous peoples, migrants and persons with disabilities.

42. There are further considerations in relation to data protection. While States are primarily responsible for respecting and upholding the human rights standards on data protection, the Special Rapporteur is aware that an increasing number of private entities are engaging in collection, storage and analysis of available data in order to detect instances of contemporary forms of slavery. For those States without proper legislative or regulatory frameworks, there is a pressing need to ensure that the activities of these private entities also conform to the data protection and human rights standards with robust monitoring mechanisms in place. It should also be highlighted that the rules on data protection vary among Member States, despite initiatives such as the ISO 27701 standard of 2019 on privacy information management, adopted by the International Organization for Standardization. This makes cross-border cooperation such as intelligence exchange difficult.[118] To address these and other issues, it may be necessary to promote a harmonization of data protection regimes among States and strengthen cooperation and collaboration with the proactive involvement of the technology sector.

43. In addition to intelligence or data-sharing, there is scope to enhance wider criminal justice cooperation. With the use of technology, contemporary forms of slavery take place in multiple jurisdictions simultaneously. The livestreaming of sexual exploitation, for example, may be conducted in one country but is often viewed by a large number of paying clients in multiple locations. This requires law enforcement authorities from affected jurisdictions to communicate and work together to bring perpetrators to justice.[119] For this to happen, however, it is necessary to align domestic substantive and procedural criminal laws as closely as possible. States should clearly recognize the serious nature of contemporary forms of slavery occurring in cyberspace and strengthen the existing criminal law provisions to address

[115] *Global Report on Trafficking in Persons 2022* (United Nations publication, 2022), p. 72.
[116] Submissions by Commonwealth 8.7 Network, Equality Now and Hope for Justice.
[117] A/76/170, paras. 37–41.
[118] Submissions by Equality Now and Hope for Justice.
[119] Submissions by Australian Human Rights Commission and Spain.

them. There is scope to improve procedural aspects, as States still apply different rules for measures such as extradition, mutual legal assistance in criminal matters, joint investigations and criminal asset recovery.

44. Furthermore, the digital divide, including the gender digital divide, must be addressed in order for technology to become a truly useful tool to address contemporary forms of slavery. It is unrealistic to assume that all victims of contemporary forms of slavery have sufficient digital literacy to gain access to the Internet, smartphones and other devices to report instances of exploitation and abuse and seek assistance in a timely manner. Technology development efforts, therefore, should focus more on empowering women, workers and victims, including by providing agency to affected individuals.[120] The digital divide is also widespread among those who have traditionally been marginalized economically, socially, culturally and politically in various parts of the world, such as children and young people, minorities, Indigenous peoples, migrants, older persons and persons with disabilities. These groups undoubtedly face a heightened risk of exploitation in contemporary forms of slavery. A similar picture emerges for anti-slavery stakeholders, as access to technology and digital literacy remains limited for many, but in particular in the global South. States, technology companies and other stakeholders should ensure that this digital divide is addressed sufficiently so that technological tools serve those most in need.[121]

45. Finally, while the technological tools mentioned in the present report demonstrate strong potential in tackling contemporary forms of slavery, there are limitations in what they can achieve. There is, for example, no guarantee that important information such as working conditions will be recorded properly using blockchain technology as its integrity depends on humans and may be open to manipulation despite its general immutability.[122] This can therefore be exploited by unscrupulous employers. Data gathering and analysis through artificial intelligence also has its limitations. There is a vast amount of relevant information available online, and collected data may become outdated and useless within a short period of time. This in turn can affect the quality of analysis and subsequently hamper the efforts to bring perpetrators to justice and protect victims. Facial recognition technology can be circumvented by plastic surgery or deepfakes, and satellite images do not necessarily disclose actual labour or sexual exploitation taking place in a given time. Technology companies therefore should regularly conduct human rights impact assessments and monitor and update their tools and platforms with a view to overcoming these and other technical challenges.

VII. Conclusions

46. **As new technologies become increasingly prevalent in our society and economy, they become both a medium in which contemporary forms of slavery manifest and a means to restore freedom to victims. In the present report, the Special Rapporteur on contemporary forms of slavery, including its causes and consequences has outlined how digital technologies can make important contributions to the ongoing fight against contemporary forms of slavery and help bridge the knowledge gap on ground truths. However, technology is not a silver bullet as it is not suited to addressing the root causes, such as poverty,**

[120] Tech against Trafficking, “Tech against Trafficking Summit: how to leverage innovation to tackle modern slavery”, 13 October 2022.

[121] Submissions by Commonwealth 8.7 Network and Equality Now.

[122] Martjin Boersma and Justine Nolan, “Blockchain can help break the chains of modern slavery, but it is not a complete solution”, The Conversation, 2 May 2019.

inequality and discrimination. It should therefore not serve as a distraction from promoting a holistic response to contemporary forms of slavery.

47. **In this regard, there is a pressing need to enhance national legislative and regulatory frameworks over a number of areas. States must regularly review their criminal law responses to contemporary forms of slavery in the light of the technological advancement and make amendments if necessary. They should also give serious consideration to the regulation of cyberspace, artificial intelligence, cryptocurrency, information gathering and social media, with thorough consultation with relevant stakeholders, including technology companies and victims, and take the actions necessary in order to improve the current responses. It is pivotal, however, that national legislative and regulatory frameworks be fully in line with international human rights standards. Furthermore, the time may be ripe for the international community to start a dialogue on international technical standards on some of these areas with a view to promoting a unified approach in preventing and suppressing contemporary forms of slavery occurring in cyberspace.**

48. **Collaboration among States, technology companies and experts, civil society organizations, financial institutions, academia and international organizations is essential to develop and maintain effective technological solutions to contemporary forms of slavery. A victim-centred approach must inform the process, in particular with regard to access to justice and remedies, and this requires the active participation of victims, who can bring their perspectives. Technology solutions must also be kept simple, as they are often more effective when they are easier to maintain and scale, as well as more accessible to a wider range of users and to those most at risk of contemporary forms of slavery. Once developed, the digital divide must be tackled so that vulnerable populations and stakeholders can benefit from them without discrimination. In this regard, more investment is needed in digital literacy and awareness-raising about the benefits and potential risks of digital technologies.**

49. **Human rights due diligence in the technology sector should be strengthened. While mandatory and other forms of human rights due diligence are promoted by some Governments, technology companies of all sizes should also take human rights due diligence in their business activities more seriously by identifying and mitigating the risks of their tools and platforms being used to facilitate contemporary forms of slavery. Technological tools must also conform to the existing international human rights standards, including with regard to data protection and privacy.**

VIII. Recommendations

50. **The Special Rapporteur on contemporary forms of slavery, including its causes and consequences makes the following recommendations to States:**

(a) **Regularly review and update criminal law provisions in order to address emerging types of exploitation and abuse occurring in cyberspace;**

(b) **Strengthen regulation over artificial intelligence, cryptocurrency, social media and other relevant areas with a view to preventing exploitation and abuse;**

(c) **Through meaningful consultations with all relevant stakeholders, consider the development and adoption of international technical standards in areas such as artificial intelligence, cryptocurrency and governance of cyberspace;**

(d) **Allocate sufficient resources to law enforcement and other relevant authorities so that they can more effectively identify, investigate, prosecute and punish perpetrators of contemporary forms of slavery in cyberspace;**

(e) **Provide adequate training to law enforcement and public authorities so that they have increased capacity and expertise on technological developments relevant to contemporary forms of slavery; and work collaboratively with the technology sector and with users of diverse backgrounds in this regard;**

(f) **Establish and maintain robust data protection policies and measures in order to prevent manipulation or misuse by third parties, including exploiters, and to protect victims of contemporary forms of slavery from abuse in this regard;**

(g) **Improve international criminal justice cooperation with other States, including data-sharing, in order to tackle contemporary forms of slavery involving multiple jurisdictions more effectively;**

(h) **Strengthen human rights due diligence in the technology sector in line with the United Nations Guiding Principles on Business and Human Rights, through legislative and other appropriate means, in order to prevent technological tools from being used to facilitate contemporary forms of slavery;**

(i) **Consider mandatory due diligence where appropriate and adopt a multi-stakeholder approach for this purpose by including relevant stakeholders such as civil society organizations and regional or international organizations and entities;**

(j) **Ensure that the proposed international convention on countering the use of information and communications technologies for criminal purposes is grounded in international human rights law, including with regard to law enforcement and procedural measures;**

(k) **Cooperate with other States to strengthen governance and accountability frameworks for social media companies; such frameworks must consider the constantly evolving nature of digital technologies and ensure sufficient geographic coverage;**

(l) **Ensure that all legislative and policy responses are informed by research and developed in consultation with survivors, social media experts, anti-slavery stakeholders and academia, and that they take the digital space into consideration;**

(m) **Consider the potential unintended consequences, such as the removal of safeguards for sex workers, in all legislative and policy responses to contemporary forms of slavery occurring in cyberspace through meaningful consultation with affected stakeholders;**

(n) **Strengthen collaboration with Governments, financial institutions, civil society organizations and technology companies to ensure safety in the digital space. Collect, analyse and share relevant data efficiently across entities and other stakeholders at the local, regional, national and international levels in a manner that is legitimate, necessary, proportionate and based on international human rights standards;**

(o) **In consultation with victims, civil society organizations and anti-slavery experts, establish accessible, safe and anonymous and user-friendly reporting mechanisms;**

(p) **Support front-line civil society organizations by ensuring that human rights are promoted, respected and fulfilled in the conception, design, development, deployment, evaluation and regulation of technologies;**

(q) **Ensure equal access to digital technologies for all without discrimination and promote digital literacy; and work closely with civil society organizations, technology companies and regional and international organizations for this purpose;**

(r) **Implement effective educational and awareness-raising programmes on the use of digital technologies and the danger of labour and sexual exploitation in cyberspace, in particular for groups in vulnerable situations, including women; children and adolescents; minorities; Indigenous peoples; migrants, refugees and asylum seekers; older persons; lesbian, gay, bisexual, transgender and intersex (LGBTI) persons; and persons with disabilities; and work collaboratively with technology companies, civil society organizations and other stakeholders in this regard;**

(s) **In addition to helping in the investigation of contemporary forms of slavery and protection of victims, consider whether technology could also help to eliminate the underlining structural causes of contemporary forms of slavery, together with technology companies;**

(t) **Refer to the elimination of contemporary forms of slavery in the context of technology, and its broader context, in all relevant deliberative, decision-making and intergovernmental processes, including the Global Digital Compact, Sustainable Development Goals Summit and Summit of the Future.**

51. **The Special Rapporteur makes the following recommendations to technology companies:**

(a) **Conduct robust human rights due diligence across all activities and business relationships to identify, prevent and mitigate contemporary forms of slavery and account for how actual and potential instances of contemporary forms of slavery are addressed;**

(b) **Adopt an appropriate smart mix of policy and regulatory measures aligned with the United Nations Guiding Principles on Business and Human Rights and developed through an inclusive consultative process involving civil society, technology companies and other relevant stakeholders, including victims of contemporary forms of slavery;**

(c) **Develop and publish clear anti-slavery policies to detect, prevent and remedy related risks across all business operations;**

(d) **Provide sufficient training on contemporary forms of slavery, including the profiles of victims and key vulnerabilities surrounding them, to employees so that they can identify the risks more effectively; and work collaboratively with States, civil society organizations and other stakeholders for this purpose;**

(e) **Establish a dedicated unit or section with knowledge and expertise on contemporary forms of slavery;**

(f) **Once risks are identified, mitigate them by taking appropriate actions, such as the removal of harmful content like grooming sites and advertisements for labour/sexual exploitation, and cooperate with the relevant law enforcement authorities;**

(g) **Ensure executive and governance oversight in managing risks related to contemporary forms of slavery, including by reviewing and addressing business model-related risks;**

(h) **Publicly report on the actions taken to mitigate human rights impacts connected with product or service design, development, sales, deployment and use, and their effectiveness for transparency;**

(i) **In funding, developing and implementing technology-based solutions, ensure that they are fit for purpose and user-friendly, taking into account issues of access, geographic coverage, literacy, organizational resources and technical infrastructure prior to deploying a solution; and consult with relevant stakeholders to this end;**

(j) **Establish accessible and user-friendly mechanisms for users to report instances of contemporary forms of slavery in their respective language and for local support providers to safely and securely reach out to at-risk users;**

(k) **Ensure robust data protection in handling collected data in line with the existing human rights and other standards; provide sufficient training to all employees, including subsidiaries and other partners; and work closely with States and civil society organizations in this regard;**

(l) **Provide effective remediation for victims of contemporary forms of slavery, which may include referral mechanisms to receive protection from public authorities or civil society organizations;**

(m) **Support the work of civil society organizations that provide assistance and protection to victims of contemporary forms of slavery;**

(n) **Raise awareness about the risks and identifiers of contemporary forms of slavery in the digital space and increase efforts to protect end users from exploitation, especially women and children, in all their diversity;**

(o) **Strengthen collaboration with Governments, financial institutions and civil society organizations to ensure safety in the digital space;**

(p) **Increase funding for the development of ethical technology solutions to address contemporary forms of slavery;**

(q) **Promote and engage in meaningful industry collaborations and partnerships to lift industry standards for preventing, identifying and mitigating slavery-related risks; partnerships should have sufficient geographic spread to ensure risk is addressed in different contexts and must involve meaningful consultation with victims and anti-slavery experts;**

(r) **Regularly audit algorithms to ensure that they are free from bias and that appropriate measures are in place to mitigate any biases identified.**

52. **The Special Rapporteur makes the following recommendations to civil society and academia:**

(a) **Through regular research, continue to identify and highlight possible protection gaps and problematic practices created by evolving digital technologies with regard to contemporary forms of slavery and strengthen collaboration with Governments and technology companies to ensure safety in the digital space;**

(b) **Strengthen victim-led outreach and awareness-raising efforts in order to inform potential victims how to spot signs of exploitation and abuse in cyberspace and report them to the pertinent authorities;**

(c) **Work with States, technology companies and other stakeholders in order to develop and adopt technical standards in important areas such social media, artificial intelligence, cryptocurrency and governance of cyberspace.**