**Response to the call for input by issued by the   
UN Special Rapporteur on Contemporary Forms of Slavery**

**Submitted by the York Centre for Applied Human Rights**

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**Purpose**

To inform the thematic report of the Special Rapporteur on contemporary forms of slavery, including its causes and consequences, to the 78th session of the General Assembly (October 2023).

**Modern technologies as a facilitator of modern slavery**

**Social Media**Primary sites of trafficking on social media include Facebook, Instagram, Snapchat, Messenger, TikTok and WhatsApp.[[1]](#footnote-1)

* Traffickers identify victims through online conversation available on Facebook, Instagram, and other social media platforms. After identifying potential victims and their vulnerabilities the trafficker begins to express sorrow, make romantic advances, and offer to help especially in the case of sexual exploitation. Whereas in the case of labour exploitation, the criminal extends a hand of friendship and later shares fake job advertisements with possible victims as well as other scams like travelling opportunities.[[2]](#footnote-2)
* In the case of sexual exploitation, criminals also pursue victims via dating applications like Tinder. The report mentions the “lover boy” technique, a tactic deployed by criminals to identify possible victims. Having generated facts about the victim, such as socioeconomic status, the criminal then expresses empathy and shows support in the form of a romantic relationship – seeking to gain control over the victim.[[3]](#footnote-3)
* Social media platforms are utilised to circle false job advertisements. Specifically in Germany, the authorities have expressed that jobs advertised are completely false, and upon arriving the migrants will have their documents revoked by the employer and often held in captivity.[[4]](#footnote-4) The failure of social media screening policies allows this to continue.

**Blockchain Technology**

The use of blockchain technology in cryptocurrency has been exploited by traffickers, corrupt employers, and consumers of illicit materials to hide their identities from law enforcement and anti-money laundering agencies.[[5]](#footnote-5)

* In its 2015 report, Europol estimates that 40% of intra-criminal traffic in the European Union took place via Bitcoin with an even higher percentage taking place on other online payment platforms, like PayPal.[[6]](#footnote-6) Blockchain records all transactional data but not necessarily identification information, so criminals can circumvent the identification elements of cryptocurrency. One method to evade detection within cryptocurrency platforms is to allocate funds to many actors within a criminal network, making it difficult to trace as Bitcoin is both paperless and independent from central banks.[[7]](#footnote-7)
* When converting cryptocurrency into cash or electronic funds, criminals will often use Bitcoin ‘mixers’, also known as ‘tumblers’. Tumblers mix identifiable cryptocurrency funds with non-identifiable or untainted funds to “obfuscate the origin, possession, and movement of cryptocurrencies”.[[8]](#footnote-8)
* Meta-data is the information accompanying files, predominantly photos, written documents, and video. One of the organisations we spoke to uses this data to track images of abuse across the internet yet struggled to find their origin point and so the enslavers or traffickers themselves could not be identified, only those who engage with the material.[[9]](#footnote-9)
* By strengthening the meta-data, for example using blockchain, or by adding extra parameters such as location stamps or IP addresses which cannot be erased, images would be intrinsically linked to their point of origin.[[10]](#footnote-10)

**Imaging and Deep Learning:**

Deep Fakes are so convincing that separating them from actual material can be difficult for humans. They may be utilised for extensive marketplace deception, sexual exploitation and trafficking with varying consequences for both enterprises and consumers.[[11]](#footnote-11)

* Traffickers may use this technique to make a fraudulent document (eg.passport) using face swapping to traffic individuals.[[12]](#footnote-12) This can also be used to lure victims by faking their videos of being involved in sexually abusive activities (non-consensual pornography).[[13]](#footnote-13)
* Adult entertainment companies are using AI to create CGI (computer-generated imagery) versions of persons through their biometric data. Biometric data that is collected through laptop logins, face ID, fingerprint ID, popular filter apps or through pictures data-farmed from social media profiles.[[14]](#footnote-14)

**Modern Technologies as a Preventer of Modern Slavery**

**Blockchain Technology**

The potential capabilities and applications of blockchain are marked by the inception of virtual financial platforms like Bitcoin in which blockchain debuted.[[15]](#footnote-15)

* This technology is being implemented in ESG-related efforts, specifically, corporate settings where there is an increasing emphasis on sustainability, fairtrade, and adequate work conditions.
* The immutability of information stored in the blockchain ensures that documents like employment contracts or salary agreements are both tamper-free and accessible to employers, workers, and any supervising agency.[[16]](#footnote-16) The need for these tools comes from multiple reports of severe labour exploitation, like during the preparation of the 2022 Fifa World Cup in Qatar.[[17]](#footnote-17)

**NLP and Imaging**  
  
NLP with its detection ability from texts and speech is used by law enforcement authorities, non-profit organisations and tech companies to detect instances of trafficking and exploitation.

* This technique is used by applying it to look for ‘textual and image cues within escort advertisements’ which contain trafficking incidences.[[18]](#footnote-18) The indicators in these advertising may include "third person voices, obscured faces, photos, and phrases,". Traffickers, who are well aware of this, swap to new keywords in order to mix in with the at-will escort adverts.[[19]](#footnote-19)
* Machine learning may partially be automated using its "classifier models" to discover trafficking occurrences.[[20]](#footnote-20) Classifier models of NLP can analyse considerably greater amounts of complicated data much more quickly than humans, since it can concurrently take into account a huge number of potentially instructive elements.[[21]](#footnote-21) This method will ensure ads are assessed on their risk, and ads with highest evaluations can be presented to authorities for investigations.[[22]](#footnote-22)

**Geo-spatial and Satellite data**  
  
Satellite and geospatial technology covers an array of data sets which are used to capture images of Earth. Geospatial technology is an umbrella term for any technology which uses spatial information.[[23]](#footnote-23)

* EO wavelengths are able to provide specific spectral ‘signatures’ pertaining to identifiable objects, such as water and buildings.[[24]](#footnote-24) The spatial element of EO provides measures for the detail observed in the image captured.[[25]](#footnote-25)
* Similarly, satellite imagery is used to monitor the behaviour of shipping vessels. It is argued there is a noticeable difference in shipping vessels behaviour if they are complicit in the use of forced labour.[[26]](#footnote-26)
* Satellite data in practice has evidenced the pressing need to investigate modern slavery within the Greek strawberry fields industry. The project was able to identify sights of exploitation not visible to the human eye.[[27]](#footnote-27) Using Pleiades satellite imagery, the identification process of sights to then be explored on the ground were ascertained.[[28]](#footnote-28)

**Positive measures taken by governments to prevent the facilitation of contemporary forms of slavery**

* In 2015 the UK Government introduced the Modern Slavery Act.[[29]](#footnote-29) All organisations with an annual turnover in excess of £36 million are required to produce an annual modern slavery statement, setting out steps taken to prevent modern slavery in their businesses and supply chains[[30]](#footnote-30).
* The United States government has taken a decisive step in the *National Action Plan Against Human Trafficking*, structured on four pillars; Prevention, Protection, Prosecution, and Institutional Effectiveness. Under the protection pillar, the U.S. National Human Trafficking Hotline distributes information about human trafficking across the U.S. and adjacent countries like Mexico and Canada.[[31]](#footnote-31) Also under these pillars awareness campaigns on Facebook, Instagram, Messenger, WhatsApp, Twitter, YouTube targeting key demographics, trafficker tactics, and how to guard against it.[[32]](#footnote-32)
* The European Union and the United Nations Office on Drugs and Crime, between 2019 and 2022, embarked upon a mission to combat human trafficking in North Africa. The €15 million regional joint project was initiated under the framework of the North Africa Window of the European Union Emergency Trust Fund for Africa.[[33]](#footnote-33)

**Examples of positive measures taken by civil society organisations and other non-governmental stakeholders in preventing modern technology from being used to facilitate contemporary forms of slavery**

* The Mekong Club, an NGO dedicated to eradicating modern slavery, and Diginex, a technology company focused on addressing ESG-related issues using blockchain technology. Together, they have developed an app called ‘eMin’.[[34]](#footnote-34) The app is designed to secure contracts for employees where information regarding terms of employment is then stored and anonymized to be accessed only with password permission. This product was first tested in 2019 in Thai aquaculture industries, and has since been deployed in agriculture, manufacturing and services sectors in other Southeast Asian countries.[[35]](#footnote-35)
* NLP techniques were used by NORC at the University of Chicago. The organisation turns data into actionable intelligence and has developed Sex Trafficking Operations Portal (STOP) that ‘uses automated data mining to create reports for law enforcement about possible human trafficking activity online’[[36]](#footnote-36)
* Marinus Analytics has developed a technological solution using machine learning and AI called Traffic Jam which assists law enforcement in locating victims of human trafficking and disrupting organised criminal networks,[[37]](#footnote-37) similar to STOP.
* Often deep learning modules of NLP are combined with images processing technology especially facial recognition software to locate victims of trafficking. In 2009, Microsoft with Dartmouth College developed PhotoDNA, to counter online trafficking and sexual exploitation. This technology compares images to find incidences of exploitations which are reported to authorities.[[38]](#footnote-38)
* idTraffickers uses biometric technology to analyse missing people reports and internet adverts to create intelligence reports that may be used by law enforcement.[[39]](#footnote-39) Biometric technology uses physical features to identify individuals who could be victims of trafficking.[[40]](#footnote-40)
* Earth observation data shows a potential source of modern slavery in Brick Kilns along the ‘Brick Belt’.[[41]](#footnote-41) Conducted at the University of Nottingham Rights Lab, satellite data capturing imagery has been utilised to draw attention to the presence of Brick Kilns in South Asia, focusing on India, Pakistan, Bangladesh and Nepal.[[42]](#footnote-42) The reason this is an identified sight relating to modern slavery is because of estimates promulgating the presence of forced labour as particularly prevalent.[[43]](#footnote-43) Using machine learning and AI, the Rights Lab searched large volumes of images on Google Earth from satellites owned by DigitalGlobe and Airbus.[[44]](#footnote-44) The reason this is substantiated as a preventative tool is highlighted by Dr. James Goulding. He states that whilst the use of technology does not replace traditional mechanisms, it is progressive in its ability to bridge the knowledge gap on ground truths.[[45]](#footnote-45)

**Challenges in the preventing process**

* Satellite data is of little use in combating slavery, where the land-based response is lacking; whether by a lack of international or private-public cooperation, or by a lack of political will.[[46]](#footnote-46)
* Any development regarding blockchain to deal with, for example, working contracts and employer-employee relations, must include external moderating actors from the employer and employee.
* NLP is a tool that can be used in replace of manually sourced content on slavery. Unfortunately, as of right now the technology is not advanced enough to provide such blanket security; it must be used and developed in conjunction with other measures where deep learning will be most effective.
* Imaging has opened up a new form of sexual slavery in particular, a ‘deep fake’ can be made of them through AI and then be superimposed onto adult content without the person’s consent, or even knowledge.[[47]](#footnote-47)

**Proposition of practical recommendations to governments and technology companies to overcome these challenges.**

1. ***Promotion of joint ventures between public and private spheres.***

1.1. Restrictions to intellectual property rights for commercial purposes for technologies conducive to the public good.

1.2. Failing this, state and charitable use of private technological infrastructure, and subsidised use of IP licences for NLP, predictive algorithms etc. in law enforcement investigations.

1. ***A new form of trafficking should be recognised - “The Trafficking of Data for Exploitative Purposes”***
2. ***Promotion and subsidy of media and technological literacy.***
3. ***A new standard of corporate liability relating to platform content.***

4.1. Creation of official supranational (UN), regional (EU), or state authorities with the power to provide accreditation to companies who a) sufficiently monitor supply chains for evidence of modern slavery, and/or b) prove sufficient safeguards are in place both in terms of technology and human oversight.

1. ***The strengthening of meta-data and updating the rules on access.***
2. ***Implementation of monitored blockchain employment agreements.***
3. ***Shared trafficking signifier repository.***7.1. Supranational freeware (free software) contributable by trusted organisations and states, sharing signifiers and hotspots of suspected activity

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