

Technology for Peace: A Structured Literature Review of the Emerging Peace Tech Landscape

Dr. Srishti¹

¹ Assistant Professor, Dept. of Sociology/ Women's Studies, Banasthali Vidyapith, Rajasthan, Email Id: srishti@banasthali.in

Abstract

The increasing use of technology in conflict-affected settings has created a new area of research referred to as Peace Tech. It brings together technology, data and peacebuilding to support conflict prevention, early warning, peace operations, dialogue, mediation and reconciliation. Over the past decade, research in this area has expanded from the use of ICTs to newer applications of remote sensing, social media, AI, machine learning and data analytics. At the same time, apprehensions have emerged about privacy, surveillance, digital inequality, technological prejudice, digital divide, and accountability. Recent scholarship demands responsible and context-sensitive approaches to the use of technology for peace. This study maps the development and emerging trends in Peace Tech research through a systematic literature review through a structured literature review. 33 articles were identified and screened using defined inclusion and exclusion criteria. The selected literature has been analysed to examine publication trends, major themes, technological applications, influential contributions and emerging areas of research. The findings confirm that Peace Tech has developed as an interdisciplinary field, bringing together peace & conflict studies with IT, data science, communication, international relations and social sciences. The literature covers diverse applications, including digital communication, conflict monitoring, remote sensing, peace operations, early warning systems, social media analysis, AI and data-driven peacebuilding. Recent studies show a clear shift towards AI, and computational approaches for understanding conflict and supporting peace processes. However, the literature also reflects a growing critical perspective that questions technological determinism and highlights the importance of ethics, human agency, accountability and power relations in technology-enabled peacebuilding. The study concludes that Peace Tech should not be understood simply as the application of new technologies to peacebuilding. Its effectiveness depends on how technology is designed, governed and used, and by whom. By adopting a Gandhian perspective, one can explore opportunities for future research on ethical AI in Indian context, responsible data use, inclusive digital peacebuilding, local participation and context-sensitive technological innovation. Overall, the study contributes to a richer understanding of the evolving Peace Tech field and provides a foundation for future interdisciplinary research on technology and peace.

Keywords: AI, Gandhian ideology, peace, peace tech, structured literature review, technology

1. Peace as a concept

According to Vaillancourt (1991), the word peace is derived from the Latin word *pax* which means absence of violence. As per Aron (1962), peace as the absence of war, while Lentz (1972) stresses the fact that a peaceful world is a warless world. Having said that, it is imperative to note that peace is not merely an absence of war, rather a prerequisite for a well-functioning society. Peace as a resultant of strong social solidarity among individuals essential for preventing anomie or normlessness leading to conflict (Durkheim, 1893). It is an absence of opposition to socialism and it can only be established with the equitable distribution of wealth and power in society (Marx,). The reduction of violence--whether at the micro, meso, macro or mega-levels--is a major world concern, often called peace (Galtung and Kunn-Sorensen, 2007). It is much more than just the absence of direct war and violence. Galtung (1969) suggests that peace in a society means when exploitation is minimized or eliminated and when there is neither direct violence nor structural violence. Lastly, as per the Indian philosophy, peace (*Shanti*) is not just the absence of conflict but a state of complete harmony with oneself, others, and the universe.

The conception of peace propounded by Gandhi (1925) is grounded in *Ahimsa* (non-violence), *Satya* (truth) and *Satyagraha* (non-violent resistance), through which conflict is addressed without hatred or physical coercion (Gandhi, 1940). He also linked peace with social welfare, self-reliance and the dignity of labour. His approach to technology is particularly relevant to a Peace Tech framework: he was not opposed to technology itself, but argued that its value should be judged by whether it serves human welfare, sustains livelihoods and benefits the wider community (Gandhi, 1925).

Foucault (2003) on the other hand evince that, conflicts and power struggles are normal, they are everywhere and always conditioning the human existence and interaction. Having said that, there are a few thinkers who consider peace as a necessity. For instance, to achieve peace and permanence, Schumacher (1973) advocated for the reduction of needs, urging individuals to adopt simpler lifestyles that prioritize sustainability and minimize consumption, thereby fostering balance and long-term stability in society and the environment.

1.1 Peace as a universal human right and Sustainable Development Goal (SDG)

The right to peace as a human right encompasses both negative and positive peace (Galtung, 1969). The achievement of the right to peace entails the decrease and elimination of all forms of violence, conflict, discrimination, and injustice. As a result, the right to peace can only be realized if societal inequalities are decreased or abolished, and cooperative group connections are promoted. Furthermore, the achievement of the right to peace necessitates both the absence of violence and the good aspects of peace, such as the lack of prejudice, cooperation, and fraternity. The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, establishes a shared vision for peace and prosperity for people and the planet now and in the future. Goal 16 of the SDG Goals aspires to create peaceful and inclusive societies for long-term development, ensure equal access to justice, and establish effective, responsible, and inclusive institutions at all levels. Peace, stability, human rights, and good governance based on the rule of law are essential for achieving human rights and ensuring long-term development.

1.2 Nature of conflicts in 21st century

Between the early 1990s and the early 2000s, the global landscape witnessed a marked decline in civil wars and war-related mortality, signalling progress in conflict resolution and peace-building efforts. However, this trend was dramatically reversed between 2005 and 2015, characterized by a sharp increase in intrastate conflicts. During this decade, the number of major civil wars rose from four to eleven, reaching a peak unseen since 1992. Minor civil wars also escalated, paralleling levels from the early 1990s. This resurgence of violence significantly heightened the human cost of war; notably, between 2011 and 2015, battle-related deaths surged six-fold. Although this figure slightly decreased in subsequent years, it continued to exceed the average mortality rates of the preceding two decades. The period of 2014–2015 thus marks a particularly intense phase of armed conflict, reflecting the complex and enduring challenges of achieving sustained peace in the international system (World Development Report, 2011; Einsiedel et al, 2017). As per World Development Report (2011), the reasons behind increasing civil wars across the world included, weak state institutions, economic/social exclusion, and sudden changes in political leadership. While the global absolute number of war-related deaths has declined since 1946, contemporary conflict and violence are rising, driven by non-state actors such as political militias, criminal organizations, and terrorist groups. Factors including

unresolved regional tensions, weakened rule of law, co-opted state institutions, resource scarcity intensified by climate change, and illicit economic incentives serve as primary conflict drivers. By 2016, the world witnessed the highest number of violent conflicts in nearly 30 years, with these conflicts becoming increasingly fragmented and protracted (UN75, 2020).

1.3 Dual nature of technology

To comprehend the relationship between technology and peace, it is crucial to recognize its dual nature. Technology possesses the capacity to drive destruction, as seen in the development of advanced weaponry and cyber-attacks, while simultaneously offering tools to foster peace, such as communication platforms, AI-driven conflict resolution mechanisms, and innovations addressing global challenges like war. This duality underscores the importance of responsibly leveraging technology to build bridges and ensure sustainable peace.

Advancements in technology have significantly influenced the evolving nature of conflict, raising concerns about their potential misuse. Extremist groups, enabled by the internet, have unprecedented access to the public, leveraging digital platforms for efficient recruitment, propaganda dissemination, incitement, and facilitating unregulated financial transactions and weapon purchases. Furthermore, the advent of AI and deep learning has introduced novel threats, including the creation of deepfakes, realistic yet fabricated media capable of spreading misinformation and exacerbating social and political divisions. AI-driven capabilities also heighten the sophistication of cyber-attacks which have emerged as a prominent modern threat, with significant implications for international security and stability. Having said that technology is also being used for establishing peace.

1.4 Peace-tech: A way forward for conflict resolution and establishing peace

Peace Tech refers to the strategic use of technology and digital innovation to prevent, mitigate, or resolve violent conflict and to support peacebuilding, reconciliation, and the creation of sustainable and inclusive peace (Bell, 2024). It is an emerging interdisciplinary field at the intersection of technology and peacebuilding, encompassing development and use of digital technologies, data, and technical systems to prevent violence, address conflict, strengthen peacebuilding processes, and promote peaceful and inclusive societies.

Science and technology are not inherently peaceful or destructive; their social consequences depend on how they are directed and used (Kranzberg, 1986; MacKenzie & Wajcman, 1999). However, it is important to redirect scientific and technological resources from military R&D toward civilian development and disarmament, thereby establishing an important conceptual link between technological choices, peacebuilding and human development. In the current scenario, technology is not merely a tool of warfare, but it also acts as a means to improve monitor, protection, mobility, humanitarian operations and conflict management. In fact, technology can empower marginalised groups by giving them greater opportunities to participate in peacebuilding and state-building processes. ICT tools can potentially make peace processes more locally owned and representative rather than being driven entirely by governments or international organisations. Peace tech allows peacebuilders to work with digital information, communication, mapping, data and other technology-enabled approaches (Tellidis & Kappler, 2016; Gagliardone & Srinivasan, 2021).

Moreover, technology changes not only how peacebuilding is conducted but also what kinds of peacebuilding interventions are possible. For instance, social media platforms such as Twitter, Facebook, Instagram and YouTube can allow people to record and circulate evidence of violence, human-rights abuses and protests. One positive step in this regard is an open-source platform originally developed in Kenya called Ushahidi, which can collect reports through SMS and other digital channels and map incidents geographically. Other example could be mobile-phone surveys as a way of gathering information from populations living in conflict-affected environments. This is relevant to Peace Tech because technology can provide peacebuilders with information about people's experiences and perceptions without relying exclusively on conventional face-to-face research. Although, technologies may expand participation and inclusion, but these effects depend on the social and political context, the way technologies are facilitated, and who has access to them. Some of the major use of Peace Tech has been depicted in Fig 1.

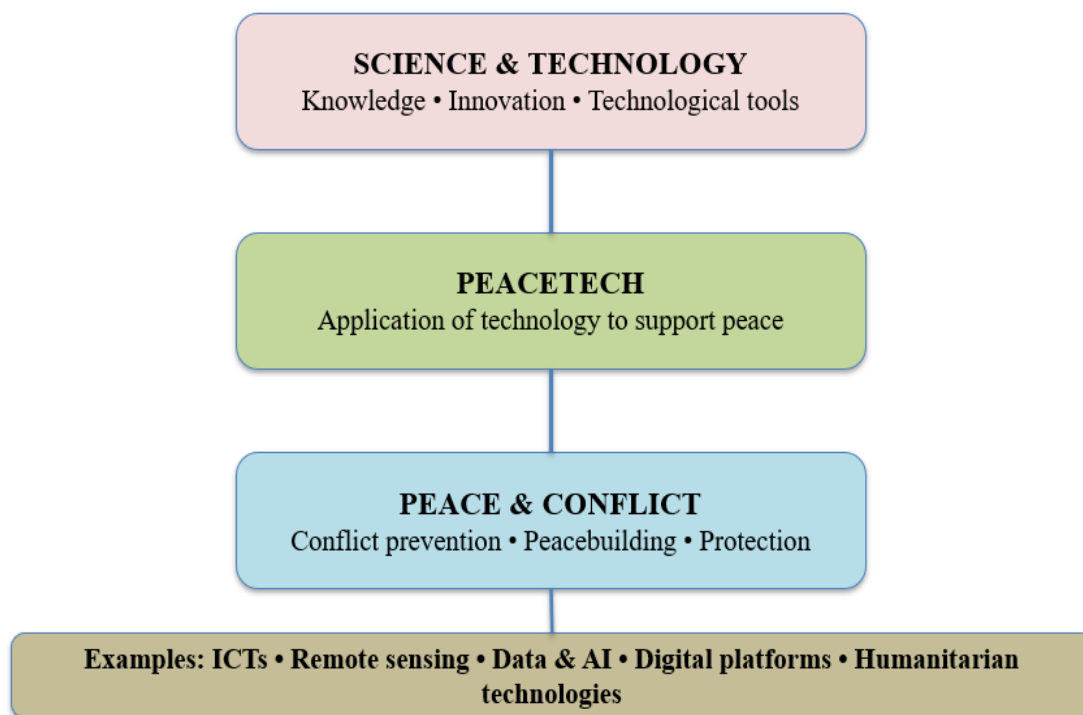


Fig 1.
Role of
Peace
Tech

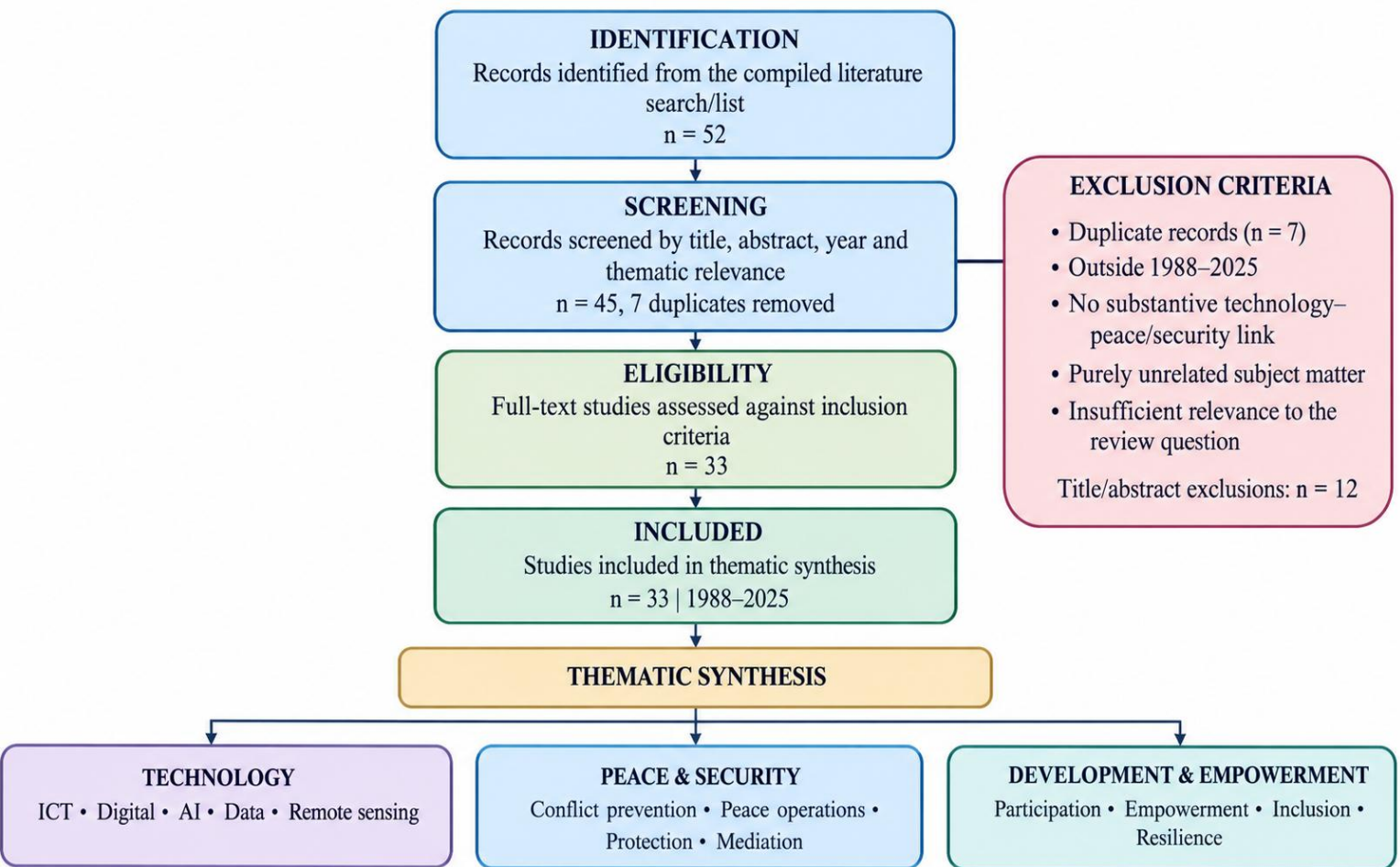
2.

Technology can support peace, but its effects depend on how and where it is used.

Literature Review

A structured screening process was used to systematically identify and select relevant literature on Peace Tech for the period 1988–2025. A total of 52 records were initially identified from the compiled literature, of which seven duplicate records were removed, leaving 45 studies for screening as shown in Fig 2. The titles, abstracts, publication years, and thematic relevance of these studies were examined, and 12 records were excluded because they were outside the study period, lacked a substantive link between technology and peace/security, addressed unrelated subject matter, or had insufficient relevance to the review question. Following this screening, 33 studies met the eligibility criteria and were included in the final thematic synthesis. The

selected literature focuses broadly on the relationship between technology, peace and security, conflict prevention, development, participation, empowerment, inclusion, and resilience, with particular attention to ICT, digital technologies, artificial intelligence, data, and remote sensing.



2.1 Technology and its role in conflict prevention, peacebuilding and protection

The first study reviewed in the study is of Thee (1988), titled Science and Technology for War and Peace: The Quest for Disarmament and Development. The article examines the relationship between science & technology, military research, the arms race, the disarmament and development. The article maintains that the scientific and technological capabilities from military purposes should be redirected towards peaceful development. Another study by Amy and Milner (2001), examines the role of digital technology in peace education and it importantly questions not only about what technology is being used but why it is being used. The study states that technology should not be considered intrinsically beneficial; its purpose, pedagogical use and social consequences must be examined.

Hyman (2014) examines ICTs that allow people to report and transmit information during crisis and disasters. It talks about Ushahidi, an open-source crowdsourcing and crisis-mapping platform introduced in Kenya. *Ushahidi* means testimony in Swahili. It allows people who are witnessing an event to submit information, which can then be collected and geographically organised/mapped to help organisations understand what is happening during a crisis.

Tellidis & Kappler (2016) examines ICTs and particularly social media tools for conflict transformation and peacebuilding. The authors inquire whether ICTs can empower marginalised actors, promote locally owned peacebuilding and create more hybrid forms of peace. Authors draw upon examples from diverse conflict and post-conflict contexts, including Bosnia and Herzegovina, Cyprus and Sri Lanka, to critically examine the opportunities and limitations of ICT-enabled peacebuilding. The study adopts a critical peacebuilding and socio-technical perspective, observing technology as neither inherently peaceful nor conflict-producing, but as a tool whose effects are designed by existing social, political and power relations. The authors claim that ICTs can create opportunities for marginalised groups to participate in peace processes and support locally owned peacebuilding; however, they can also strengthen existing inequalities or be appropriated by powerful actors. The study, therefore, makes a significant contribution to Peace Tech by shifting attention from the technological tool itself towards the social and political conditions under which the technology is used.

Firchow et al (2017) brings together different contributions addressing digital witnessing through social media in the context of Palestinian solidarity, ICT-enabled collective action during disaster response in Samoa, and the use of mobile phones for research in conflict-affected contexts. The technologies discussed include, social media, mobile phones, internet-based communication and digital data-collection tools. Notably, the authors question technological determinism and challenge the assumption that digital technologies automatically produce better inclusion or participation. Instead, they argue that the peacebuilding effects of technology depend on the social, political and contextual conditions in which it is embedded.

Bamba (2017), studies the ICTs and their potential to facilitate communication, information sharing, monitoring and early responses to emerging political turmoil during an electoral period. Unlike studies that examine technology as a device of peacebuilding, Bamba situates ICT-enabled peacebuilding within a specific political context, the 2017 Kenyan presidential election. The study, therefore, adopts a conflict-prevention and ICT4Peace perspective², examining how digital communication can theoretically contribute to preventing the escalation of electoral tensions and violence.

Gaskell (2019) examines the empowerment and participatory potential of ICTs within Peace Tech practices through a qualitative study of the Build Peace community of practice. The study investigates how ICTs are actually embedded into peacebuilding practices and what possibilities for action they create. Gaskell also challenges technological determinism. He argues that the peacebuilding potential of ICTs depends on how practitioners appropriate and use their affordances within particular social and political contexts.

² ICT4Peace: The initiative emerged with Swiss government support around the 2003 World Summit on the Information Society (WSIS). The ICT4Peace project subsequently developed research on how ICT could be used throughout the conflict cycle. In 2005, the UN ICT Task Force published *Information and Communication Technology for Peace: The Role of ICT in Preventing, responding to and recovering from conflict*.

In KOFF Swiss peace (2019) the implications of social media and digital communication technologies for contemporary peace mediation was examined. The study adopts a policy-oriented and practice-based approach to examine how digital technologies create new channels of communication between mediators, conflict parties and affected communities. Social media and online communication platforms can facilitate information exchange, public engagement and access to diverse narratives during peace processes. At the same time, the study recognises challenges linked with misinformation, polarisation, manipulation and the loss of confidentiality. From a Peace Tech perspective, the study establishes that digital technologies are transforming the spaces and practices through which mediation takes place, while their effects remain dependent on the political and social context in which they are used.

Tellidis (2020) provides a conceptual examination of the relationship between technology and peace. It examines how grassroots actors can use technological tools for communication, mobilization and participation. A particularly significant point is the dual-use character of technology. Drawing on critical peace studies and technology-and-society perspectives, author, therefore, rejects technological determinism and conceptualises technology as a politically contingent tool that can facilitate both peacebuilding and the reproduction of conflict and power inequalities.

López et al. (2024) introduce a practical framework for integrating science and technology into peacebuilding. The authors emphasise the need to orient technological innovation towards preventing, mitigating and resolving violence. The framework is built around four principles such as, common language, needs-driven interventions, stakeholder engagement and the do-no-harm principle. The study, hence, adopts an Science-Technology -Society (STS) and peace-studies perspective.

Kurian and Saad (2024) examine how digital storytelling, artificial intelligence and gaming can be used to teach peace and human rights and to nurture empathy among learners. Using a human-centred design perspective, the authors present three case studies illustrating how these technologies can provide experiential and learner-centred approaches to difficult subjects such as genocide, violence, war and human-rights violations. The authors acknowledge both its potential and its risks and emphasise on the importance of designing technological interventions around learners' needs and experiences. The study thus represents an educational dimension of Peace Tech, in which technology is used not primarily to stop conflict directly but to develop empathy, awareness and understanding that can contribute to a culture of peace.

Tellidis and Barker (2025) critically examine the growing use of digital technologies in peacebuilding and challenge the assumption that technological innovation necessarily produces social or political progress. The authors analyse digital peacebuilding at a theoretical level through Aristotle's distinction between *epistêmê* (knowledge) and *technê* (craft). They argue that the ability to develop increasingly sophisticated digital tools should not be confused with achieving peace a crucial social and political end. The study, hence, provides a critical philosophical perspective on Peace Tech, questioning technological determinism and drawing attention to the distinction between technological means and the substantive goal of peace.

2.2 Establishing peace & security through technology

Fainberg and Maruyama (1988) provide an early discussion of technologies that can support international peace operations. The study discusses about the role of remote sensing, mine-clearance technologies and less-than-lethal weapons as

technological tools that can be adapted from conventional military applications for peacekeeping and civilian protection. Remote sensing can assist peacekeepers in monitoring conflict-affected areas, while mine-clearance technologies can help make post-conflict environments safer for civilian populations.

Lieber (2000) inspects the relationship between technological capabilities and international security through the theoretical concept of the offence-defence balance. The study considers military and strategic technologies and investigates as to how technological developments can influence the relative advantages of offensive and defensive capabilities. From a Peace Tech perspective, the study is important because it explores whether changes in technological capabilities can influence the incentives and conditions surrounding conflict.

Axworthy and Dorn (2016) examine how new technologies can expand the tools available for implementing the Responsibility to Protect (R2P)³. Rather than concentrating on one technological device, the study considers technological capabilities related to monitoring, information gathering, communication, early warning and civilian protection. The article is situated within the international R2P framework. Its central argument is that technological developments can strengthen the capacity of international actors to identify threats, monitor situations and respond to potential mass atrocities. The study positions technology as a means of improving early warning, preventive action and protection of vulnerable populations.

Guadagno et al. (2018) focus on the emerging use of data and digital technologies to examine interactions between social groups. The study considers how digital data collection, standardisation and analysis can provide systematic information about intergroup relationships and interactions. Its academic contribution lies in connecting data science with peace and conflict research, suggesting that technological tools can help researchers identify patterns in intergroup interaction and generate evidence relevant to understanding conflict and peacebuilding. The study represents the emergence of data-driven Peace Tech, where technological systems are used not simply to respond to conflict but to generate knowledge that can inform peacebuilding.

Nzioki (2020) examines technology, tools and equipment used by UN peace operations and claims that technological capabilities are increasingly important for making peace operations resilient and “fit for purpose” in changing conflict environments. The article discusses a range of peacekeeping technologies and equipment, including unmanned aerial systems, surveillance and observation technologies, communications systems, counter-improvised explosive device technologies and other operational equipment. The emphasis is on how these tools help peacekeepers adapt to environments involving armed groups, terrorism, organised crime and threats to civilians.

Mäki (2020) focuses specifically on AI and asks how it might contribute to Peace Tech while also being designed responsibly. The work considers AI from a service-design and responsible-innovation perspective, asking as to how AI-enabled Peace Tech should be designed so that it does not reproduce existing social problems or create new threats.

³ The Responsibility to Protect (R2P or RtoP) is an international principle adopted unanimously by UN Member States at the 2005 World Summit. It establishes that states have a responsibility to protect their populations from four specific atrocity crimes such as, genocide, war crimes, ethnic cleansing, and crimes against humanity.

Avtar et al. (2021) focus specifically on remote sensing and Earth-observation technologies, particularly the use of satellite and remotely sensed imagery for international peace and security. The study contends that technology can provide information about conflict-affected areas, environmental changes, human-rights situations and possible evidence of atrocities, thereby supporting monitoring and assessment where direct access may be difficult. Its Peace Tech significance lies in demonstrating how satellite and earth-observation technologies can transform conflict monitoring by providing geographically extensive and relatively independent sources of information.

Renic (2023) adopts a critical approach to observe military technology, examining the idea that increasingly destructive weapons can produce peace by making war prohibitively costly. The technology discussed is therefore “superweapons,” particularly nuclear and other weapons of radical destructiveness, rather than a peacebuilding technology such as ICT or AI. Renic analyses the historical and political discourse surrounding the idea that technological superiority or overwhelming destructive capacity can prevent war and thereby ensure peace.

Dorn (2023) observes specific technologies used by UN peace operations for the protection of civilians (POC)⁴. Unlike some of the more conceptual studies, this article identifies concrete technologies, including attack helicopters, night-vision devices and non-lethal weapons, while also discussing newer or less-tested technologies such as laser signalling and digital simulation. Author has used case studies to examine how these technologies have operated in actual UN peace operations. The geographical contexts are therefore multiple, such as, attacking helicopters are discussed in relation to the Central African Republic, night-vision devices in Haiti such as, night vision goggles, infrared/thermal imaging for detecting heat signatures, and night-vision monoculars and binoculars for observation and reconnaissance. The author also discussed about the use of less lethal weapons such as tear gas, pepper spray, rubber bullets, water cannons, stun-flash/ bang devices, etc., in the Democratic Republic of the Congo for peacekeeping.

Sticher (2024) evinces about the growing significance of artificial intelligence in relation to war, security and peace. The technological focus is therefore AI and AI-enabled military/security applications. The study considers as to how AI may amend the relationship between military power, warfare and peace and raises questions about the broader consequences of

Liiv et al. (2025) examine the rapidly developing field of data-driven Peace Tech. The technologies discussed include machine learning, network analysis, specialised text classifiers, large-scale predictive analytics, satellite imagery, citizen-generated data and digital platforms. These tools can be used to identify patterns in conflict dynamics, support early warning, facilitate mediation and peacebuilding, and improve monitoring and accountability. The authors also stress that technological approaches need to be incorporated with ethical, technical and governance considerations, rather than treated purely as technical solutions.

Hirblinger, Hofmann and Lidén (2025) inspect the digital and sociotechnical systems through which Peace Tech interventions operate, rather than focusing on one specific technology. Their discussion encompasses digitalisation, algorithmic and data-

⁴ Protection of Civilians (POC) is a major framework within UN peacekeeping and international conflict management. It refers to efforts to prevent, deter, and respond to threats of physical violence against civilians during armed conflict. In UN peacekeeping, POC is a whole-of-mission responsibility involving civilian, police, and military personnel.

driven systems and the complex networks of human and technological actors involved in contemporary international peace and security practices. The central concern is responsibility: when a technological intervention produces unintentional or harmful consequences, responsibility may become distributed across developers, organisations, policymakers, users and technological systems. The study therefore delineates that Peace Tech is not only about what technology can accomplish, but also who is responsible for its consequences.

2.3 Bringing development & empowerment through Peace Tech

Kuur-Sörensen and Galtung (2007) has done a theoretical study of conflict and peace, drawing on the sociological and critical theories of Bourdieu, Foucault and Habermas. Another study by Makinda (2023) directly brings science, technology and innovation (STI) into discussions of peace and development. It considers science, technological innovation and technological capacity broadly, examining how these can contribute to development, human wellbeing and peaceful societies. The study therefore moves Peace Tech beyond the narrow use of technology for conflict monitoring or peacekeeping and connects it with developmental capacity and long-term peace. It conceptualises technology as part of the structural conditions that support peaceful development, rather than merely as a tool used after conflict has already emerged.

Osimen et al. (2023) directly examine modern technologies and their relationship with peace, security and development in Africa. Its focus is therefore on technology as a wider social, economic and security force, including its potential to support development and security while also creating new challenges. Moreover, Sidik and Setia (2024) provide a sociological and conceptual discussion of peace rather than an investigation of a technological intervention. The study does not discuss a specific Peace Tech technology such as AI, ICT, social media, remote sensing or digital platforms. It treats peace as a social condition involving relationships, institutions and social structures.

2.4 India specific study on Peace Tech

The literature on the role of technology in promoting peace remains somewhat limited in the Indian context. Within the present review, only two studies directly engage with the relationship between technology and peace from an India-related perspective. A study by Paul and Rath (2014), titled, ICT for Peace: A Philosophical Perspective, examine the potential of ICTs as instruments for peace, particularly in relation to communication, conflict resolution and peacebuilding has been relevant. The study provides an important conceptual foundation for understanding how ICTs can be oriented towards peaceful purposes.

Similarly, Palakodety et al (2019), in their study on hope-speech detection, demonstrate a more computational application of Peace Tech in the context of the India–Pakistan conflict on Kashmir. Using computational linguistic techniques to analyse online discourse, the study discovers as to how digital technologies can identify expressions of peace and hope within conflict-related communication. Together, these studies prove that technology can pave the way to peace through both communication-oriented approaches and computational analysis of digital discourse.

However, there is a significant dearth of literature on India's role in promoting Peace Tech. Hence, there is scope for further research examining how emerging technologies such as AI, digital platforms, data analytics, remote sensing and other

technological interventions are being used for peace-making, conflict prevention, security, development and empowerment in India.

3. Discussion and conclusion

With the expansion of digital technologies, the scope of Peace Tech gradually moved towards ICTs, AI, social media, digital platforms, data analytics and digital communication, which created new possibilities for conflict prevention, peacebuilding, participation and mediation. More recent studies have further expanded the field through the application of AI, machine learning, predictive analytics, satellite imagery, digital dialogue platforms and data-driven approaches to peace processes. Almost all the studies discussed in the paper question the concept of technological determinism. Also, the recent scholarship increasingly questions the assumption that technological innovation automatically produces peace. Issues of digital inequality, surveillance, algorithmic bias, ethical responsibility, technological appropriation and unintended consequences have become important concerns. The emerging literature on AI and data-driven Peace Tech particularly emphasises responsible design, human-centred approaches, contextual knowledge and accountability. Thus, Peace Tech is increasingly understood as a socio-technical process in which technology, human actors, institutions, power relations and ethical considerations interact. It thus, establishes that the peace technology must be guided by particular ethical, social and peacebuilding values.

As the land of Gandhi, India has a distinctive intellectual and ethical foundation from which we must approach Peace Tech. Gandhian values of non-violence (*ahimsa*), truth (*satya*), human dignity, self-reliance and the welfare of all (*sarvodaya*) can provide an important normative framework for thinking about Peace Tech. Rather than viewing technological advancement merely in terms of efficiency, sophistication or military capability, India can draw upon the Gandhian idea of appropriate technology⁵, also known as the technology that is human-centred, accessible, sustainable, locally relevant and oriented towards social welfare. Such an approach can encourage the development of peace-based technological interventions that strengthen dialogue, reduce violence, empower marginalised communities, promote inclusive participation and support sustainable development. This presents an important opportunity for India to develop a distinctive model of Peace Tech in which technological innovation is combined with ethical responsibility, social justice and non-violence. Thus, a Gandhian perspective suggests that Peace Tech should be human-centred, non-violent, locally appropriate, inclusive and oriented towards the welfare of all, rather than driven solely by technological sophistication.

Overall, the literature suggests that technology can function as an important enabler of peace, but its contribution depends upon how, why, by whom and within what social and political context it is designed and used. The development of Peace Tech, therefore, represents a shift from viewing technology merely as an instrument of security and empowerment, while simultaneously recognising its limitations and risks.

⁵ Appropriate Technology: E. F. Schumacher popularized the idea through *Small Is Beautiful* (1973), initially using the term “intermediate technology.” Developing societies should not simply import highly capital-intensive technologies developed for very different economic and social circumstances. Instead, technologies should be affordable, relatively simple, locally manageable and appropriate to local resources and needs.

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