

ISSRA-BASIC
ROUNDTABLE DISCUSSION

EMERGING AND DISRUPTIVE TECHNOLOGIES AND IMPACT ON SECURITY



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INSTITUTE FOR STRATEGIC STUDIES, RESEARCH & ANALYSIS (ISSRA)
NATIONAL DEFENCE UNIVERSITY ISLAMABAD



**ISSRA-BASIC
ROUNDTABLE DISCUSSION
ON
EMERGING AND DISRUPTIVE
TECHNOLOGIES AND IMPACT ON SECURITY**

8 October 2024

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Disclaimer: The discussions and report have followed Chatham House rules.

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Conversations





Introduction

- The Institute for Strategic Studies, Research and Analysis (ISSRA) at the National Defence University (NDU) Islamabad, in collaboration with the British American Security Information Council (BASIC), hosted a dialogue on “Emerging and Disruptive Technologies (EDTs) and Impact on Security” on 8 October 2024 at NDU.
- The event brought together subject-matter experts, policymakers, and academic representatives from Pakistan and Europe to explore the multifaceted impacts of EDTs on global security. These technologies, which include artificial intelligence (AI), machine learning, quantum computing, and cyber capabilities, are advancing at an unprecedented rate and challenging traditional security concepts. The roundtable provided a platform to discuss the challenges in regulating these technologies, explore regulatory gaps, and consider the prospects for multilateral cooperation.
- The dialogue was structured to address three main areas: the transformative effects of EDTs on security concepts, the ethical and legal considerations surrounding military and civilian applications of EDTs, and the strategic implications of these technologies for regions such as Europe and South Asia. This document is a detailed synthesis of the discussions, emphasising the key issues raised, areas of consensus, and recommendations for future policy actions.

Key Findings

- EDTs are fundamentally changing how states understand and approach security. Technologies such as AI and cyber capabilities can significantly alter military strategies, potentially lowering the threshold for conflict. Experts highlighted the dual-use nature of these technologies, which can serve both offensive and defensive purposes, complicating traditional deterrence and trust-building mechanisms. This shift has implications for strategic stability, as it raises the risk of miscalculation and unintended escalation.
- The security dilemma—a situation where the defensive actions of one state are perceived as threatening by another—becomes more complex with EDTs, as offensive and defensive capabilities are increasingly indistinguishable. This ambiguity complicates efforts to signal peaceful intentions, particularly in regions like South Asia, where the stakes of misinterpretation are high.
- Both European and Pakistani experts emphasised the importance of multilateral frameworks in managing the risks associated with EDTs.
- The dialogue underscored the ethical and legal challenges of AI-driven autonomous weapon systems, which have the potential to make life-or-death decisions without human intervention.
- With EDTs increasingly accessible to non-state actors, cybersecurity emerged as a critical national security concern.

Summary of Proceedings

- Experts discussed how EDTs reshape traditional security concepts, noting that technology is now deeply intertwined with national and international security frameworks.
- As digital innovations permeate defence, healthcare, finance, and infrastructure, the scope of security extends beyond conventional military assets.
- The discussion highlighted examples from recent conflicts, such as the Azerbaijan-Armenia war and the ongoing Ukraine conflict, where autonomous and AI-enabled systems have changed the nature of warfare. These examples demonstrate a shift from manned to automated systems, raising questions about the implications of EDTs for future conflicts.
- A European participant outlined the security dilemma in the context of EDTs, explaining that the inability to distinguish between offensive and defensive uses exacerbates uncertainty. The difficulty in interpreting intentions leads to risk escalation, as states may misinterpret protective measures as aggressive moves. With their potential for both offensive and defensive applications, AI-enabled systems increase this ambiguity. The participant referenced John Herz's original theory on the security dilemma, highlighting that AI systems could amplify misperceptions and lead to unintended competition and brinkmanship.
- European speakers emphasised how AI, cyber capabilities, and biotechnology are transforming security frameworks.
- The participants had different views on the need for regulatory control, either through binding international law or merely responsible innovation policies that prioritise transparency and control to prevent miscalculations and crisis escalation.

- Participants discussed that multilateralism is vital for regulating EDTs and preventing arms races.
- European experts highlighted the role of international platforms like the United Nations in fostering dialogue and establishing shared norms for responsible EDT management. They pointed to European Union's initiatives to regulate AI and emphasised the importance of humanitarian law in shaping international technology governance.
- Pakistani experts underscored that multilateral cooperation is essential to managing asymmetrical security dynamics in conflict prone regions, where competitive relationships risk escalating EDT-driven arms races.
- Besides non-binding measures, international law is imperative to regulate state behaviour.
- The dialogue also highlighted the ethical and legal complexities of integrating AI and autonomous systems into military contexts.
- Participants emphasised that existing legal frameworks, such as the Geneva Conventions, are ill-equipped to address the unique challenges posed by AI-driven weapon systems.
- A Pakistani expert stressed the need for binding international protocols to ensure human oversight in lethal decision-making, echoing Pakistan's advocacy for "human-in-the-loop" systems at the Convention on Certain Conventional Weapons (CCW).
- The conversation also touched on the ethical implications of lethal autonomous weapon systems (LAWS), with participants agreeing on the need for adaptive regulatory frameworks that reflect humanitarian principles and prevent unintended escalation.
- Cybersecurity emerged as a key theme, with experts emphasising the urgency of developing cyber diplomacy policies and investing in national cybersecurity infrastructure.

- The dialogue noted that cyber threats linked to the automation and connectivity of EDTs could escalate tensions if not effectively managed.
- Participants discussed how network intrusions, intended as defensive actions, could easily be misinterpreted as offensive espionage, increasing the risk of crisis escalation.
- Pakistani participants stressed the need for a dedicated cyber diplomacy policy to protect against cyber threats, highlighting Pakistan's vulnerability as a technology laggard in a rapidly advancing digital landscape.
- The dialogue also addressed the potential for non-state actors to weaponise EDTs, which could significantly increase security risks. Participants emphasised that technologies like AI and drones could be misused if not adequately regulated.
- European experts advocated for export controls and verification measures to prevent non-state actors from accessing potentially harmful EDTs.
- Pakistani experts echoed this concern, noting the importance of global frameworks that limit proliferation while supporting the peaceful use of technology.
- European and Pakistani experts underscored the importance of an inclusive approach to global policymaking on EDTs.
- Inclusivity in governance entails incorporating diverse perspectives from developing nations, which often face different security and development challenges than technologically advanced states.
- Pakistani experts highlighted how restrictive technology denial regimes by Western powers disproportionately affect countries like Pakistan, hindering their progress towards the United Nations Sustainable Development Goals (SDGs) and perpetuating regional asymmetries.
- Inclusivity in global governance, they argued, would ensure a more equitable distribution of technological benefits and reduce the risk of geopolitical tensions fuelled by technological divides.

- The importance of building a robust technological infrastructure to maintain national security and safeguard sovereignty was also highlighted. Pakistani participants stressed that reliance on foreign technology creates vulnerabilities, particularly in the context of imported software and hardware with potential security backdoors.
- They argued that establishing a self-sufficient technological ecosystem is essential for Pakistan to remain competitive and secure in an era of rapid digital advancement.
- European experts supported this view, noting that technological sovereignty is increasingly recognised as a national security priority worldwide.
- Participants discussed that developing local capacities in critical technology areas, such as data management, computing, and energy-efficient infrastructure, would help Pakistan and other developing nations reduce dependence on external sources and secure technological integrity.
- The need for enhanced education and training for policymakers and defence leaders to understand EDTs' implications fully was underscored.
- While previous eras of military technology, such as conventional weapons and early computing systems, were accessible to a wide range of policymakers, today's advanced technologies like AI, quantum computing, and cyber systems require specialised expertise.
- A Pakistani expert noted that Pakistan's universities and military training institutions are launching executive education programmes, such as "AI for Leaders," to address this gap and equip policymakers with the knowledge needed to make informed decisions about emerging technologies.
- European participants also emphasised the role of capacity-building initiatives in enhancing decision-makers' understanding of EDTs, enabling them to assess better the risks, benefits, and ethical considerations of incorporating these technologies into national defence strategies.

PICTURES GALLERY





Programme

1050 hrs	Arrival of Participants
1100-1105 hrs	Recitation of Holy Quran
1105-1110 hrs	Introduction to ISSRA
1110-1115 hrs	Welcome Remarks: DG ISSRA
1115-1120 hrs	Introductory Comments: Dr Chiara Cervasio, Policy Fellow and Programme Manager, British American Security Information Council (BASIC), London
1120-1150 hrs	<p>Discussion on Emerging and Disruptive Technologies (EDTs) and Impact on Security</p> <p>Moderator: Dr. Atia Ali Kazmi, Director Global and Regional Studies Branch, ISSRA</p> <p>Discussants: European Perspectives: Professor Nicholas J. Wheeler, Senior Fellow at BASIC</p> <p>Pakistani Perspectives: Dr. Maria Sultan, Chairperson/President, South Asian Strategic Stability Institute (SASSI) University, Islamabad</p>
1150-1255 hrs	Interactive Session with Expert Participants
1255-1300 hrs	Concluding Remarks: DG ISSRA
1300 hrs	Group Photograph Lunch Dispersal

List of Participants

Chair	
Major General Muhammad Raza Aizad HI(M)	DG ISSRA
Moderator	
Dr. Atia Ali Kazmi	Director Global and Regional Studies Branch, ISSRA
Speakers	
Dr. Maria Sultan	Chairperson South Asian Strategic Studies Institute (SASSI) University
Professor Nicholas J. Wheeler	Senior Fellow BASIC, Professor at University of Birmingham
Expert Participants	
Air Vice Marshal (Retd) Dr. Rizwan Riaz	Pro-Rector Research, Innovation and Commercialisation (RIC), NUST
Ambassador (Retd) Farukh Amil	Chairman Intellectual Property Organisation (IPO), former Ambassador of Pakistan to United Nations
Professor Dr. Haider Abbas	DG Pakistan Computer Emergency Response Team (PKCERT)
Mr. Javed Iqbal	Executive Director Special Technology Zones Authority (STZA)
Mr. Oves Anwar	Director Research Society of International Law (RSIL)
Col. Saad	Director NWGC, NDU
Ms. Aroobah Sarfarz Lak	Lecturer, Faculty of Contemporary Studies (FCS), NDU
Ms. Gulandam Mian	Lecturer, FCS, NDU
Experts from BASIC	
Dr. Chiara Cervasio	Team Lead, Policy Fellow and Programme Manager
Ms. Mhairi McClafferty	Policy Fellow
Ms. Eva-Nour Repussard	Policy Fellow
Ms. Alice Spilman	Researcher



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