

Letter of Intent (LoI)

between

Military College of Telecommunication Engineering (MCTE)

and

National Institute of Electronics and Information Technology (NIELIT)

On

Potential Areas of Collaboration

Background


1. The **National Institute of Electronics & Information Technology (NIELIT)**, under the Ministry of Electronics and Information Technology (MeitY), Government of India, focuses on human resource development, capacity building and certification in Information Technology, Electronics, Cybersecurity and related fields. NIELIT provides specialized training ranging from basic computer literacy to advanced areas such as AI, IoT and Blockchain. It plays a key role in skilling and capacity building, conducting research and offering consultancy services in cutting-edge technologies to meet industry demands, particularly in cybersecurity and emerging technologies.

2. MCTE, is a premier technical establishment of Indian Army which is involved in technology infusion through research and development. The institution's vision is to develop in house field deployable solutions which are customized to military specific requirements and enhance operational efficiency with focus on emerging and disruptive technologies. Areas of collaboration between **NIELIT** and **MCTE** could focus on joint training and certification programs in IT, Cybersecurity and emerging technologies like AI, SDR, Quantum and 5G, tailored to military applications with specialised programs aimed at enhancing defense capabilities in cybersecurity, electronic attacks and spectrum management.

3. This Letter of Intent (LoI) will reaffirm the commitment to collaborate in the following key areas:

(a) **Establishment of a Satellite Campus/Accreditation Centre:** Establishment of a NIELIT satellite campus/Accreditation Centre at MCTE, Mhow, to facilitate academic programs, research initiatives, and training for both military and civilian personnel. Presently NIELIT Accreditation Centre may be set up for running NIELIT Courses and in future after a detailed feasibility analysis is conducted and if found feasible a NIELIT Satellite Centre may be set up. This initiative would facilitate the delivery of specialized courses tailored for defence personnel, enhancing their technical training and operational readiness.

(b) **Certification, Affiliation and Recognition.** NIELIT Satellite Campus/Accreditation Centre at MCTE, Mhow should be providing recognised certifications thereby ensuring adherence to academic and examination standards. These recognised certifications would offer both national and potential global recognition. NIELIT satellite campus at MCTE, Mhow, should focus on following aspects:-


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- (i) **Certification**. Courses offered should lead to NIELIT-recognised certifications, ensuring that the qualifications are nationally recognised and wide acceptance.
- (ii) **Affiliation**. The Satellite Campus/Accreditation Centre should operate under the affiliation of NIELIT, adhering to its academic guidelines, curriculum standards and examination procedures.
- (iii) **Recognition**. Courses and certifications should be recognised by the Government of India, particularly by the Ministry of Electronics and Information Technology (MeitY), ensuring their validity across various sectors. The certifications should be valued by employers in the electronics, IT, and telecommunications sectors.
- (c) **Customised Courses aligning with Military Perspective**. Creation of customised courses by NIELIT to align with military training with the rapidly evolving technological landscape. These courses would be tailored to address the specific needs of military focusing on critical areas like cybersecurity, electronic warfare, advanced technologies, AI, telecommunications etc. By integrating cutting-edge technologies and military applications, these customised programs / courses would enhance the technical proficiency of military personnel. Creation of customised courses under following streams / domains:-
- (i) Cybersecurity and Cyber Defense.
- (ii) Advanced Emerging Technologies like VLSI, 5G, Quantum Computing, SDR, Cognitive Radios etc.
- (iii) Embedded Systems, Drone Technology and IoT for Defense.
- (iv) Artificial Intelligence and Machine Learning.
- (v) Network Security and Cryptography.
- (d) **Access to Virtual Labs & Smart Labs**. Access to Virtual Labs and Smart Labs provided by NIELIT will be a critical step for fostering a modern, hands-on learning environment, particularly in the fields of electronics, IT and telecommunications. This will enable students and faculty to experiment with complex simulations, software tools and real-world scenarios without the constraints of physical resources. Access to Virtual Labs & Smart Labs will entail following aspects:-
- (i) Rights for access to virtual Labs and use of advanced tools and automation.
- (ii) Access to various software and hardware tools for remote learning.
- (e) **Mapping of Courses**. Mapping the courses offered by NIELIT and MCTE will involve reviewing and comparing the curricula to identify overlapping areas. Joint collaboration will align learning outcomes and meet both technical & operational needs. This will entail following coordination aspects:-
- (i) Mapping the courses offered by NIELIT with those from MCTE from a military perspective involves aligning technical and military learning.

(ii) Comparison of course content and objectives to identify areas of overlap and complementary skills.

(iii) Collaborate between domain experts from both institutions to ensure that the technical knowledge provided by NIELIT integrates with MCTE's military training requirements. Developing specialised courses that combine elements of both curricula, focusing on areas such as cybersecurity, electronic warfare, and advanced communications.

(iv) Focus on programs covering foundational and advanced concepts by leveraging on cutting-edge technologies like VLSI design, Wireless technologies and AI-driven analytics to address contemporary challenges and leverage advanced technologies in military applications.

4. This Letter of Intent (LOI) signifies the shared commitment of **NIELIT** and **MCTE** to collaborate in developing and deploying advanced technologies that address the operational needs of the Indian Army. The implementation of this LOI will lead to the formalization of a detailed Memorandum of Understanding (MoU), outlining the specific roles, responsibilities and timelines. **NIELIT** and **MCTE** will designate teams to oversee the establishment of the Centre of Expertise (CoE) and define a roadmap for collaborative projects. The CoE will initially focus on research aligned with key military problem statements, with the goal of developing prototypes within mutually agreed timelines.


[Signature]

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