

B.N.M. Institute of Technology

An Autonomous Institution under VTU

CENTER OF EXCELLENCE (COE)

SL NO	DEPARTMENT	NAME OF COE	YEAR OF ESTABLISHED
1	AIML / CSE / ISE	AR & VR Technology	06/11/2023
2		Cyber Securities	27/11/2024
3		Dell-Intel AI	25/10/2024
4		Samsung Innovation Campus	02/02/2023
5		Juniper Networks AI-Native	Jan 2023
6	MECH	Toyota Center of Excellence	14/05/2018
7		3D Printing Technology	27/10/2022
8	ECE	Healthcare & Smart Technology	11/08/2023
9		Academic Industry Synergy Center	29/05/2026
10	EEE	Electric Vehicle Technology	25/04/2023
11		High Voltage Testing	April 2021

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Department Of AIML / CSE / ISE

Name of COE	Purpose of COE Establishment	Major Equipment/ Software with specification	List of Activities Conducted	Outcomes - Projects/Patents/Research/ Prototype	Proposed Activities
Center of Excellence in AR & VR Technology Established on 06/11/2023	Aims to establish a specialized platform for innovation, research, skill development, and industry collaboration in Augmented Reality (AR), Virtual Reality (VR), and Extended Reality (XR). Its key purposes are: To provide hands-on learning and practical training in AR, VR, and XR technologies. To promote research and development of innovative AR/VR applications across education, healthcare, manufacturing, robotics, gaming, and other domains.	RYZEN 7-S700X MOTHERBOARD B550 GIGABYTE RTX 3060 12GB RAM 16GB SMPS, Mouse and 18" monitor (5 Nos) . Logitech C270 HD web Camera, Omnidirectional Microphone, Mic for PC (2 Nos). Oculus Quest 2 (2 Nos) Oculus Quest 3 (2 Nos)	1. VIRTUOVATION 2.0 AR/VR Hackathon - 23/03/2026 to 24/03/2026 2. Industrial Visit to Galore Systems PVT Ltd - 09/01/2026 33 Students and 3 faculties were attended 3. VIRTUOVATION AR/VR Hackathon - 28th to 29th April 2025 4. Student out-reach program for BNMIT School students - 1st August 2025 5. 5 Days FDP on AR & VR and its applications- 6th to 10th Nov 2023 45 Participants from BNMIT and other colleges were participated	AR VR Hackathon Projects and Ideas Presented and Patents Applied. Hackathon was conducted on 3 different domains •Education •HealthCare •Entertainment VIRTUOVATION Prize pool of Rs 75000/- VIRTUOVATION 2.0 Prize pool of Rs 105,000/- Patents Filed:2 Copyrights filed :3 Paper Presented: Roller Coaster Ride to Adventure Land: Real-Time Emotion Detection and Adaptive Ride Control using Virtual Reality at ICNGSMCA-2026	1. VIRTUOVATION 3.0 AR/VR Hackathon planned to organize on April 2027 for 6th Sem AIML Students 2. Industrial Visit planned to Galore Systems PVT Ltd on Jan 2027 for 6th Sem AIML Students

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Center of Excellence in Cyber Securities. Established 27/11/2024	Aims to establish a dedicated platform for cybersecurity education, research, innovation, practical skill development, and industry collaboration. Its key purposes are: To provide hands-on training in cybersecurity, ethical hacking, digital forensics, network security, and secure software development. To promote research and innovation in emerging areas such as AI-driven security, cloud security, IoT security, blockchain security, and cyber threat intelligence.		1. Understanding and Building Agentic AI & MCPs for Security - 05/06/2026 Participants - 67, 6th Sem AIML Students 2.Security and AI - 30/01/2026 Participants - 100 , 6th Sem AIML Students 3. Scam Awareness Program -08/03/2025 Participants - 100	13 Internships offered by Pragya Cyber Pvt. Ltd- Dec 2025 3 Internships offered by Pragya Cyber Pvt. Ltd- Dec 2024 2 Job Offers : AY:2025-26 Adithya Karthik - 1BG22AI003 Abhishek M Latte - 1BG22AI002	Workshop on Cyber Security planned to orgnaize on June 2027. Hands on Session on LLM Security planned to orgnaize on March 2027

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Dell-Intel AI Established 25/10/2024	Aims to establish a collaborative platform for innovation, research, skill development, and industry–academia partnership in Artificial Intelligence (AI), Machine Learning (ML), Data Science, and emerging Intel technologies. Its key purposes are: •To provide hands-on learning, practical training, and industry exposure in AI, ML, Data Science, and related technologies. •To strengthen academia–industry collaboration by facilitating joint projects, knowledge exchange, mentoring, and technology-enabled learning initiatives aligned with current industry requirements.	High-performance workstations with Intel® Core™ i7/i9 or Intel® Xeon® processors, minimum 32 GB RAM, 1 TB SSD, NVIDIA RTX GPU (8–16 GB VRAM) for AI model development and training.	The following activities were successfully conducted under the Dell–Intel AI collaboration during the academic year 2024–25: Faculty Development AI for Youth Program: 13 faculty members certified as AI Coaches (29 August 2024). AI for Future Workforce Symposium: 2 faculty members participated at Intel Office (29–30 January 2025). AI for Entrepreneurship Micro-learning: 4 faculty members completed the Intel certification (25 March 2025). Student Skill Development AI for Entrepreneurship Micro-learning: 47 students successfully completed the program (25 March 2025). AI for Future Workforce (AIFFW): 9 students are actively developing AI-based innovative projects under Intel Digital Readiness Programs	Collaborative research publications in AI and emerging technologies. Development of AI-based prototypes addressing real-world problems. Increased opportunities for certifications, and industry-ready skill development. 13 Faculty certified as AI Coaches, strengthening institutional AI capability. 47 Students gained entrepreneurial and applied AI skills through structured micro-learning modules.	Conduct AI certification and skill development programs for students and faculty. Strengthen academia–industry interaction through mentorship, industry visits, and joint innovation initiatives.

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SAMSUNG INNOVATION CAMPUS Established 02/02/2023	•As a part of the MOU, Samsung Innovation Campus (SIC) has established the Centre of Excellence in the Department of CSE, BNMIT on 02 Feb 2023.	Under this COE, Samsung provided the additional infrastructures required for conducting the courses and designed the classroom for SIC.	Courses offered	1. 225 students for certified with the courses offered by the samsung and 2. 03 worklets are received excellence awards	Courses offered
		Provided Various components related to IOT			1. Coding and programming
	•As a part of the MOU, Samsung Innovation Campus (SIC) has established the Centre of Excellence in the Department of CSE, BNMIT on 02 Feb 2023. Aim: To provide skill development and industry experience for students of BNMIT.	IOT kits – 36 + 30	Total worklets offered under PRISM program to BNMIT students	Total worklets received :19 worklets as on July 2026, Completed 10, 03 worklets are received excellence awards	2. Internet of Things
		UPC kits – 06			3. Artificial Intelligence
		Mobile Phones – 06			Total worklets received
		1. High end workstations – 01			19 worklets as on July 2026
		2. Laptops – 02			
		3. Sound bar – 01			
Juniper Networks AI-Native	- To foster innovation, enhance research capabilities and strengthen industry-academia collaboration in the field of networking. - Installation and training of Juniper Networking Components. - Under this COE, various technical certifications from different networking verticals are offered for students and faculties, which is beneficial for their placements and improving domain knowledge. - Faculty Development Programs and Skill Enhancement Programs will be conducted in collaboration with Juniper Networks.	1. AP32-WW Superior Performance Multigigabit WiFi 6 802.11ax Access Point (6 stream) with Bluetooth Low Energy, built-in Internal Antenna. Universal Mounting Bracket included.	• Faculty and Student Engagement through Online Self-paced Courses on Juniper Learning Portal on Junos, Security, Cloud, Devops and Mist AI started from 13-04-2025.	Self-paced Courses on Juniper Learning Portal on Junos, Security, Cloud, Devops and Mist AI. The following are the number of candidates who have completed different Juniper course as on today:	Workshops and skill enhancement trainings for students and faculties.
		2. SUB-2S-3Y Subscription for one AP for 3 years; upgrades, cloud subscriptions and warranty benefits.	• 3 Days FDP on “Juniper Networks AI-Native” was conducted from 06-04-2026 to 08-04-2028	• JNCAA- Junos Associate: 32	
		3. AP63-WW Premium Performance Outdoor Multigigabit WiFi 802.11ax Access Point.		• JNCAA Mist AI: 3	
		4. SUB-2S-3Y Subscription for one AP for 3 years. 5. EX4100 24-Port PoE+ Switch with 10G/25G uplinks.		• JNCAA Security, Associate: 2 • WiFi E-learning: 2	

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		6. S-EX-A-C2-3-ND Advanced license with 3-year support. 7. EX2300-C-12P Compact Fanless 12-port PoE+ Switch. 8. SUB-EX12-2S-3Y-N 3-Year Wired Assurance & VNA Subscription. 9. EX2300-VC EX2300 Virtual Chassis License. 10. EX-SFP-10GE-DAC-1M SFP+ 10GE Direct Attach Copper Cable, 1m. 11. CBL-EX-PWR-C13-IN AC Power Cable - India (6A/250V, 2.5m). 12. SRX300-SYS-JB SRX300 Services Gateway. 13. S-SRX-A-C1-3-ND Advanced WAN Assurance (3 years).		More than 30 faculty members from various departments and colleges actively participated in the FDP	

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Department Of ME

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Toyota Center of Excellence at BNMIT Established on 14/05/2018	1. Improves understanding of core Mechanical Engineering subjects. 2. Provides practical and hands-on learning experience. 3. Gives exposure to Toyota automobile systems and technologies. 4. Helps students relate classroom concepts to real applications. 5. Benefits both students and faculty through industry-oriented learning.	Toyota Innova Chassis / Frame - 01 No Engine Assembly with Clutch - 01 No Transmission Assembly - 01 No Clutch Cover Assembly - 01 No Alternator Assembly - 01 No A/C Compressor Assembly - 01 No Vane / Power Steering Pump Assembly - 01 No Exhaust Pipe Assembly - 01 No	1. Hands on training on Dismantaling of Innova Deisel engine to NTTF students. 2. Around 45 Students of BNMIT 5th semester Mechanical Engineering students were trained on 1. Introduction to the function of the engine and engine components, working principle. 2. Dismantling and assembling of engine head cap and Turbocharges 3. Introduction and Demonstration of special tools 4. Assembly of Engine parts	The BNMIT-Toyota center provides opportunities for students to understand the needs of industry by analyzing the desing and manufacturing mehod of engine components.	Utilized for student internships and hands-on training. UG projects and prototype development Technical demonstrations for Mechanical Engineering students. Research, innovation, publications, and patent-related activities Training for NTTF students and faculty development
Center of Excellence in 3D Printing Technology Established on 27/10/2022	1. To provide students with practical training in 3D printing technology. 2. To familiarize students with diffeernt types of 3D printers and their capabilities 3. To encourage innovation and creativity through the deisng and fabirication of 3D objects. 4. To facilitate interdisciplinary collobration and research in additive manufacturing	3D Printer make ALPI V3SA300, ALPIV3DA300, Creativity ender 3 V2 Neo FDM 3D Printer FDM 3D Printer Dual Nozzle 3D Printer Liquid based 3D Printer 3D Scanner	1. Provided hands-on training in 3D printing and CAD modeling. 2. Guided students develop projects, prototypes, and functional models. 3. Supported research and innovation in 3D printing technology.	To conduct training, workshops and student projects on 3D printing. The centre will also support prototype development, research and industry-related activities.	Around 12 UG Final Year Projects were completed by 48 students of the 2020 batch of M.E. Enhanced Skillset: Students develop proficiency in 3D modeling, printing, and scanning, enhancing their employability in industries utilizing additive manufacturing technologies. Academic Excellence: The Centre contributes to BNMIT's academic excellence by providing cutting-edge facilities and research opportunities in 3D printing technology.

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Department Of ECE

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Centre of Excellence in Healthcare & Smart Technology Established on 11/08/2023	This CoE aims: • To nurture research culture among faculty and students • To develop products relevant to healthcare and smart applications • To enlarge the expert group to take up consultancy work • To jointly conduct research with industries in providing solutions to real time problems in health and smart technology. • Guidance of Industry and hospitals The CoE will mainly conduct research on these domains • Internet of Medical Things (IoMT) • Workflow Optimization • Brain Computer Interface (BCI) • Smart Sensors • Prediction & Disease Management • Medical Imaging • Health Apps	*DIY Neuro Science Kit Pro, 10 bit ADC, Sampling freq -500 - 5 sets *EEG XSYS Proto V0.1 Development kit - 1 Set *Recliner PushBack Chair - 1 Set *Biomedical Sensors	*FDP on Emerging Healthcare Technologies: A five-day Faculty Development Programme on Emerging Healthcare Technologies, funded by New-Gen IEDC, DST, Government of India. *NadiCare – Health Tech Hackathon: Organised NadiCare – Health Tech Hackathon in association with all the Centre of Excellence (CoE) industry partners on 14 March 2026. *Workshop on Brain Signal Processing: Conducted a technical workshop on Brain Signal Processing *Poster Presentation on Digital Health: Organised a Poster Presentation on Digital Health on 8 July 2024. *Real-Time Healthcare Projects: Developed and facilitated five real-time healthcare technology projects under the Centre of Excellence. *Technical Talk on Eye Care and Dry Eye Diagnosis: Organised a technical talk titled “Eye-Care in the Modern World: Innovative Solutions for Dry Eye Diagnosis and Prevention” by Bharathkumar Hegde, PhD, Co-Founder & CEO, Autoyos Pvt. Ltd., on 18 February 2025 at BNMIT, Bengaluru. *Ocular Surface Assessment: Conducted an Ocular Surface Assessment on 19 February 2025 in association with Autoyos Pvt. Ltd. * Entrepreneur talk Conducted EntreprenYOU – Crafting Your Startup Story in College, focusing on student entrepreneurship, innovation, and startup development. *Technical visit and Research Exposure: Advanced EEG Signal Processing and Brain Mapping at NIMHANS *TechRX Webinar series 2026-every month - 3rd thursday *Student Startup – Thridutha Technologies: Supported the establishment of the student startup Thridutha Technologies, founded by Kartik Hitnalli, Karthik N, and Chandan Gowda.	*Bid2Build 2026 * Industry workshop - From EEG to Human-State-Aware AI *Poster presentation	*Industry Internships for Students: Facilitated internships for 15 students at IIHMR, Bangalore; 5 students at Renalyx Health Systems Pvt. Ltd.; 15 students at Autoyos; 25 students at Subhanu Technologies; 7 students at SkyBrain Technologies; and 2 students at GTM4Health. *Participation in INHSA Digital Health Conclave: Five student groups working under the CoE participated in INHSA – Digital Health Conclave. One team won the Best Innovation Award along with a cash prize of ₹30,000. *ICSSR-Funded JanAushadi Project: Submitted a joint proposal with IIHMR to ICSSR for the JanAushadi project. A funding of ₹12 lakh was sanctioned, with faculty from ECE and MBA departments involved in the project. *Sanjeevani – Drone-Based Medical Logistics Project: Secured ₹6.5 lakh funding from Infineon Pvt. Ltd. for the project Sanjeevani – Drone to Carry Medical Storage Box. *Integrated Thermal and RGB Imaging System: Secured ₹10 lakh funding from Eurofins for the project Development of an Integrated Thermal and RGB Imaging System for Early Screening of Musculoskeletal Inflammation with Future Diagnostic Potential *Seed-Funded Healthcare Innovation Projects: Undertook seed-funded projects including Visio Assist; NeuroBand – EEG Band for Sleep Research; and Robo-Mitra – Robotic System for ICU Logistics. * 27 patents *Publications

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Department of ECE

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COE on Academic Industry Synergy Center (AISC) on 29/05/2026	• To strengthen collaboration between academia and industry through joint initiatives, projects, training, internships and research. • To bridge the gap between academic curriculum and current industry requirements. • To provide students and faculty with exposure to emerging technologies, industrial practices and real-world problem statements. • To facilitate industry-sponsored projects, consultancy, research, patents and technology development. • To enhance employability, entrepreneurship, innovation and industry readiness among students.	Industry interaction sessions and expert guest lectures on emerging technologies.	Development of industry-oriented student projects and working prototypes. • Identification and execution of industry-relevant research problems. • Increased participation in hackathons, innovation challenges and technical competitions.	Establish MoUs with leading industries and technology companies. • Set up industry-sponsored laboratories and specialized technology centres. • Launch joint industry–faculty research and consultancy projects.

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Department of EEE

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Electric Vehicle Technology established on 25/04/2023	1. Promote advanced learning in field of Battery Management System.	Papers published and presented under CoE-EVT ---(3 nos.)	Patents granted under CoE-EVT(2 Nos.)	1. Design of autonomous vehicle to reach level II category.
	2. Enhance research and innovation by conducting high quality research in field of battery technology, power electronics, vehicle control and energy management			2. Skill training for students to build batteries and electric Vehicles.
	3. Strengthen industry collaboration by collaborating with automobile manufacturers, EV Start ups, Component manufacturers.	(1) Nikhil Bhargava S, Pavan Bhat, Gurannagouda, Mahesh S, Dr. Venkatesha K, “Automated Wheel Chair”, International Journal of Multidisciplinary Research in Science, Engineering & Technology (IJMRSET), ISSN: 2582-7219 www.ijmrset.com Impact Factor: 7.54 Volume 6, Issue 5, May 2023	(1)Electric Wheel chair	

	4. Promote sustainable transportation by developing environment friendly technologies that improve energy efficiency, reduce emissions and support India's transition towards green mobility	(2) Venkatesha K, Sudalai Shunmugam, A Kumar, Vijayashree L, "Design & Development of an Automated Wheelchair for differently abled person using Keypad and Bluetooth Technology", 2024 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), Bengaluru, India, January, 2024.	(2) IoT based Green Energy Charging station	
		(3) Venkatesha K, R V Parimala, Champa P N, "Power train design and build up of EV born car using power flow analysis", 2023 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), Bengaluru, India, 2023, pp. 690-695, DOI: 10.1109/IITCEE57236.2023.10090958, 27-28, January, 2023 (Best Paper award). Workshop organized under CoE-EVT --- (2 nos.)		
		National workshop on "Artificial Intelligence Applications in Autonomous Vehicles" at BNMIT, Bangalore in association with IE(I) KSC from 22/04/2024 to 27/04/2024		

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High Voltage Testing established in April 2021	1. To establish advanced facilities for testing and performance evaluation of high-voltage equipment, including insulators, transformers, bushings, surge arresters, cables, circuit breakers, and insulating materials, in accordance with IEC, IEEE, and IS standards. 2. To promote research and innovation in high-voltage insulation systems through experimental studies on	1 Inclined Plain Tracking and Erosion Tester • Voltage Range: 0-6 kV HVAC.	1. Under Industry Institute Collaboration, Manobhu Technology Pvt. Ltd., Bangalore provided Silicone Rubber Samples for the testing purpose to be carried out in the HV laboratory of the EEE department during 2020-21.	1. Secured 2nd place in National Level Symposium - TESLA – 2K24 conducted by Dept. of EEE, Rajarajeshwari College of Engg, 13th and 14th June 2024, for Project on “Testing, Simulation and Analysis of RTV Silicone Coated Ceramic Insulator under Inclined Plane Tracking and Erosion Test	Ongoing Project : “Evaluation of Dielectric Surface Degradation in Polymeric Insulators” – 2026-2027
		• The equipment meets the guidelines of : IEC 60587	2. Under Industry Institute Collaboration, a research proposal entitled “Effects of Corona Discharge and the Influence of Corona Ring on Polymer Insulators: An Experimental and Computational Investigation” was submitted to Vision Group of Science and Technology (Application No: VRN/002820/21-22), under CESEM scheme on 24h February 2022.	2. Secured 2nd place in National Level Symposium - TESLA – 2K24 conducted by Dept. of EEE, Rajarajeshwari College of Engg, 13th and 14th June 2024, for Project on “Testing, Simulation and Analysis of RTV Silicone Coated Ceramic Insulator under Inclined Plane Tracking and Erosion Test	Carried out by :

	dielectric breakdown, partial discharge, insulation ageing, tracking and erosion, lightning impulse, switching impulse, power-frequency withstand, and pollution performance of insulating materials and equipment.		3. Under Industry Institute Collaboration, a research proposal entitled “Evaluation of Insulator Surface Erosion under DC Inclined Plane Tracking and Erosion Test” was submitted to Vision Group of Science and Technology (Application No: VRN/002820/21-22), under RGS-F scheme on 28h February 2022.	3. Rakshitha Secured Second prize for Project Title “ RTV Coated Ceramic Insulator” in Avinya 2024, Inter College Project Competition, 2023-2024, BNMIT	Achyutha U 1BG23EE003
	3. To provide industry-oriented training, testing, consultancy, and certification services in High Voltage Engineering by developing expertise in high-voltage testing, insulation diagnostics, condition monitoring, failure analysis, and quality assurance for utilities, manufacturers, and academic institutions.		4. Received RTV coated product (RTV-274-01-0421) samples (5 No.) for testing on 10.07.2023 from Manobhu Technology Pvt. Ltd., Bangalore.		Samana P Joshi 1BG23EE040
		• Capable of testing solid dielectrics namely Silicone insulating material, EPDM insulating material, EVA insulating material and Cables insulation check	5. Under Industry Institute Collaboration, a research proposal entitled “		Seshadri S 1BG23EE043
			Investigating the Impact of Contamination and Corona Discharge on Composite Insulators: An Experimental and Computational Analysis” was submitted to Vision Group of Science and Technology (Application No: VRN/004659/23-24), under K-FIST L1 scheme on 21st June 2024.		Shreya P S 1BG23EE050

		2 Flash and Fire Point Meter • Temperature Range: 49 °C – 400 °C	UG Projects carried out:1) Experimental and Simulation Studies on Silicone Insulating material under Inclined Plane Tracking and Erosion Test		2) Industry Visit
			2)Experimental and Simulation Studies on Polymer Insulator under Inclined Plane Tracking and Erosion Test		