# M S B T E

MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI

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For Private Circulation Only

NEWS LETTER

News, Views and Insights


**Theme**

**Blockchain Technology**

**Inside....**






## MSBTE Welcomes Newly Inducted members to the Governing Board

The Higher & Technical Education Department, Government of Maharashtra, vide Government order No. 673117 EFile-673117-HTED 14011/13/2023- MHT-TE-5 dated 4th Dec 2023 has nominated members to the Governing Board of MSBTE. The 56th meeting of Governing Board of MSBTE was held on 9th January, 2024 under the Chairmanship of Dr. Vinod Mohitkar, Director, DTE. During the meeting Dr. Pramod Naik, Director, MSBTE welcomed all newly inducted Board Members. To inculcate inclusiveness in Diploma Level Technical Education, the nominated members of MSBTE Governing Board are the representatives of the stakeholders of diploma education system in the State of Maharashtra.

**56th Governing Board meeting held on 9th Jan 2024 under chairmanship of Dr. Vinod Mohitkar, Director, DTE**

The members nominated to the Governing Board of MSBTE are Dr. Suhas S. Gajre, Principal, Government College of Engineering, Jalgaon, Smt. Padmaja Bhanu B., Principal, K J Somiya Polytechnic, Mumbai, Shri. Ashish Ukidve, Principal, Viyalankar Polytechnic, Mumbai, Smt. Jyoti Hange, HoD, Computer Engg., Government Polytechnic, Pune, Smt. Sandhya Vishnu Karande (Kolhe), HoD, Electronic & Telecommunication Engineering, Guru Gobind Singh Polytechnic, Nashik, Shri. Dhananjay Bapat, Industrialist, Nagpur, Shri. Rajesh Solanki, Managing Director, Miraj Instrumentation Services Pvt. Ltd., Thane, Shri. Vivek Naik, Managing Director, Apple Chemie India Pvt. Ltd., Nagpur, Shri. Manoj Deshmukh, Founder and Director, Eteva Consulting Pvt. Ltd., Pune and Shri. Hemant Chafale, CEO, Trust Fintech Limited, Nagpur. The detailed profile of the members are given at page no. 10.

The Governing Board Members are expected to advise MSBTE in the matters of policy relating to Diploma Level Technical Education in general and other matters like co-ordination between National polices & State policies related to Diploma Level Technical Education; co-ordination between Secondary, Higher Secondary, Degree Education and Diploma Level Education; to maintain uniform standard of Diploma Level Technical Education; and to promote Industry Institute Interaction; in particular. Over the years, MSBTE is immensely benefitted from the valuable inputs and suggestions of the members of its Governing Council as well as Governing Board. Members have played a vital role in Board's journey towards becoming one of the leading Technical Education Board in India and MSBTE highly appreciates their contribution in its progress.

## Government Of Maharashtra launches 'Maharashtra Drone Mission'

Drone or Unmanned Aerial Vehicle (UAV) is an unmanned aircraft without any human pilot, controlled by a computer system and includes Rotorcraft, Fixed Wing, Hybrid/Vertical Take-off and Landing (VTOL), Balloon Systems, and many other configurations. Due to the increasing use of Drone Technology, many revolutionary changes have taken place in the industrial sector and this technology is helping in tackling challenging, costly, and time-consuming tasks. Recognizing its significance, the Government of Maharashtra (GoM) has decided to launch the 'Maharashtra Drone Mission'. As per the instructions of Hon. Deputy Chief Minister of Maharashtra on 19th June, 2023, Higher & Technical Education Department organised various meetings with all concerned administrative departments in consultation with Indian Institute of Technology, Mumbai (IIT Bombay) to develop 'Maharashtra Drone Hub' for the effective implementation of this mission and to prepare inclusive machinery in this regard. Accordingly, IIT Mumbai gathered information on various issues and problems faced by different administrative departments at regional levels and their possible solutions by using Drone Technology and submitted a project report on 'Maharashtra Drone Mission' to Higher and Technical Education Department on 26th October 2023. The report envisaged the use of drones for the delivery of medicines in an emergency as well as vaccines to remote areas. In case of natural disasters such as floods and landslides, the technology could be used to help rescue operations and also to understand the effect of a particular disaster and plan preventive steps accordingly. According to the report, drones could be used for surveillance and traffic management, especially in major cities, and in the handling of law-and-order situations. It also listed the multiple uses of drones in the agriculture sector.

GoM has approved the project report of 'Maharashtra Drone Mission' in its Cabinet meeting held on 14th Dec. 2023 and subsequently a Government Resolution (GR) was issued on 28th Dec. 2023. Under this mission with the coordination of

**Contd. on Page No. 15**

# Message from Director, MSBTE, Mumbai

**Dear Readers,**

It gives me immense pleasure to publish the first issue of MSBTE Newsletter for the year 2024. As we stepped into the New Year, may it bring joy, success & new opportunities to our professional & personal lives. I extend my warm wishes to each one of you.

In today's competitive world, staying at the forefront of technological advancements is crucial. This year, in the first issue of 2024, our newsletter explores the theme of 'Blockchain Technology' – revolutionary force reshaping industries across the Globe. Much like the intricate interconnected blocks of blockchain, our education endeavours are interconnected and contribute to the larger narratives of knowledge & progress.

Blockchain, with its decentralised and secure nature, reflects the principle we hold dear at MSBTE. It's a symbol of transparency, collaboration, & innovation – values that echo in our academic pursuits. As we delve into this theme, let's draw inspiration from the blockchain's ability to create a robust, interconnected network and apply it to our collective journey of learning & growth.

I feel a greater need for creating awareness and education around blockchain technology among various stakeholders of diploma education. Sincere efforts have been made here to provide our readers a clear understanding of this innovative technology and its potential in various sectors of economy as well as in our day-to-day life. I am confident that, this issue of MSBTE Newsletter will enhance the knowledge and awareness about this cutting-edge technology among our various stake holders.

Further, I would like to make you aware about the Faculty Development Programmes (FDPs) and Soft Skill Trainings undertaken by MSBTE for the faculties of Polytechnics of Maharashtra. Under such programmes, MSBTE in collaboration with different industries (L&T, Festo, NEC, CIPET, etc.) conducted 18 trainings till November 2023 in Academic Year 2023-24 in which 954 faculties were benefited, more such trainings are scheduled till the end of this Academic Year. I hereby appeal to the faculty members of various Polytechnics to take active participation in such training programmes to keep themselves abreast with the recent technology and industrial practices.

As far as student development activities are concerned, MSBTE has scheduled region wise State Level Students Technical Paper Presentation Competitions and State Level Technical Quiz Competitions in the months of January to March 2024. Also to promote Innovation, Talent and Creativity, MSBTE has scheduled region wise State Level Project Competitions from January to March 2024. I appeal to the institutes to motivate the students to avail this opportunity by taking active participation in these activities as it enhances student's self-growth and self-confidence.

As you all know that, MSBTE has started development and implementation of NEP 2020 based 'K' Scheme curriculum for engineering diploma programmes progressively from Academic Year 2023-24. In this regard, for the uniform implementation of the new curriculum, MSBTE is developing CIAAN/OBCISS (Curriculum Implementation and Assessment Norms / Outcome Based Curriculum Implementation Support System) document and also progressively conducting Orientation Programmes in the State in consultation with NITTTR, Bhopal.

I take this opportunity to extend my heartfelt gratitude to the incredible team of MSBTE that keeps the gears of MSBTE turning smoothly. MSBTE's staff diligence, teamwork, and unwavering commitments are the backbone of MSBTE's success.

In 2024, let's blockchain our success link by link, creating a legacy of knowledge, innovation and unparalleled achievements. Once again, wishing you all a Happy New Year filled with prosperity, growth & success.

**Dr. Pramod Naik**
Director, MSBTE, Mumbai

## Message from Secretary, MSBTE, Mumbai

**Dear Readers,**

First of all, I would like to convey my best wishes for 'New Year 2024' to all the readers.

Since, the theme of the current issue of our Newsletter is Blockchain Technology, I would like to give you glimpses of the real-world application of this technology. In recent years, Blockchain Technology has been leveraged by various Governments across the globe for land registration, healthcare, e-voting, and e-identities. Here Maharashtra has stood out among its fellow states, when it comes to the active adoption of Blockchain Technology. This technology is adopted to increase the efficiency in the operations and streamlining the processes. Recent applications of this technology, such as digital governance, has reduced frauds while simultaneously increasing trust and accountability in the life of common citizens.

In 2023, Maharashtra's Transport Department announced that transfers of Regional Transport Office (RTO) Inspectors will be done with the help of a "Blockchain-based" computerised system. By embracing digital methods and leveraging Blockchain's intrinsic security features, it aims to reinstate integrity to the transfer system thus providing equal opportunities for all eligible inspectors. In 2022, Government of Maharashtra started using Blockchain Technology based system for caste certificate validation which currently involves a lot of manual intervention and is prone to frauds and forgery, thus depriving eligible candidates' jobs or education opportunities. Under this initiative, 65,000 Blockchain Caste Certificates were issued in Etapalli village and Gadchiroli. In 2022, the office of Inspector General of Registration and Stamps has started to store property buyer's e-registration data and its authentication using Blockchain Technology which can be shared with relevant stakeholders including property buyers, Government authorities and financial institutions involved in funding the purchases. In the same year, Public Health and Family Welfare Department of Maharashtra announced that it has teamed-up with Algorand Blockchain and MAPay, for storing personal health data of patients using NFT (Non-Fungible Token) technology thereby eliminating intermediaries in the healthcare system. It will be releasing 100 million NFTs in the first phase of this initiative.

In 2021, Maharashtra State Board of Skill Development announced launching of Blockchain Technology-powered educational credentialing system anchored on the Polygon Blockchain using the LegitDoc platform for issuing one million certificates to diploma holders of eight educational years. Each student will receive a digital file containing the original PDF diploma certificate and its corresponding blockchain proof file.

Similarly, Maharashtra Pollution Control Board has been using a

Blockchain based solution for environmental clearance built by a startup Print2Block, which won the Maharashtra Startup Week Award in 2019.

In the coming years, innovative applications of Blockchain Technology is expected to become a gamechanger for Maharashtra. It will help in revamping and removing the major problems in most of the essential services provided by the Government. Hope this issue of our Newsletter will provide ample information about this trending technology to our readers.

**Dr. Mahendra Chitlange**
Secretary, MSBTE, Mumbai

## Blockchain & Sustainability: Reducing Carbon Emissions

Climate change is one of the most pressing sustainability challenges confronting the world today. To restrain global warming to 1.5 degrees Celsius, the world must significantly reduce its carbon emissions. Blockchain Technologies will play a critical role in the path to decarbonization, which is key to achieving the goals of the Paris Agreement, COP21. Blockchain Technology will help in integrating climate change initiatives into policies, strategies and planning.

Blockchain Technology has the potential to play **a significant role in reducing carbon emissions**. It can be used to create transparent and immutable records of carbon emissions, which can track and manage carbon footprints across various industries. Smart contracts and digital tokens can be used to incentives and reward carbon emissions reduction efforts, while decentralized ledger systems can ensure the integrity and accuracy of carbon offset credits. Additionally, Blockchain can facilitate **the creation of peer-to-peer energy trading platforms**, enabling more efficient and decentralized energy distribution while promoting the use of renewable energy sources. By enabling trusted and secure transactions, without intermediaries, Blockchain Technology can help streamline carbon offset markets and enhance overall environmental sustainability efforts. This helps to incentives the deployment of renewable energy systems, reduce reliance on centralized energy providers, and promote energy independence.

Moreover, **use of Blockchain in supply chain management can also contribute to climate change mitigation**. By creating a transparent and tamper-proof record of the origin and impact of products, Blockchain can help consumers and businesses make more informed decisions about their purchases, leading to a reduction in carbon emissions from the production and transportation of goods.

In India, the Government has taken steps to promote carbon offsetting and trading through various policies and initiatives. The country has created National Clean Development Mechanism Authority to facilitate the implementation of Clean Development Mechanism (CDM) projects, which enables sale of Certified Emission Reductions (CERs) in the international carbon market.

Likewise, Blockchain Technology has the potential to greatly impact agricultural sustainability by providing a transparent and immutable ledger. Blockchain can be used to track the entire agricultural supply chain, from seed to table. This can help ensure the authenticity of organic and sustainably grown products, reduce food waste, and improve food safety. Smart contracts on a blockchain can also enable secure and transparent agreements between farmers and buyers, promoting fair trade practices and better compensation to farmers. Thus, **blockchain can be used to incentivize sustainable farming practices, in line with Government policies.** Overall, blockchain has the potential to revolutionize the agricultural industry and contribute to long-term sustainability efforts.

**Case Studies: -Power Ledger,** an Australian technology company, has begun exploring the impact of blockchain. In a pilot project launched in Uttar Pradesh, India, they have allowed homeowners with solar panels on their roofs to sell electricity to others connected to the grid. This involves setting prices in real time and executing transactions on the blockchain which can increase renewable energy deployment.

**Gujarat Fluorochemicals Ltd.** (GFL) project brought reduction of emissions of hydrofluorocarbons (HFC-23), a potent greenhouse gas with a high global warming potential, at its manufacturing facility. The project designed to capture and destroy HFC-23 emissions through the installation of specialized equipment, generated significant CER credits, which were subsequently sold in the international carbon marketplace. Today there are certain blockchain based platforms like Poseidon Foundation, Nori etc. that enables businesses and consumers to offset their carbon footprint by purchasing carbon credits directly from emission reduction projects. This not only provided financial benefits to GFL but also contributed to global efforts to mitigate climate change by reducing emissions of a potent greenhouse gas.

**Conclusion:** Blockchain Technology has the potential to significantly contribute to the global effort to combat climate change by enabling carbon emissions tracking, decentralised renewable energy production, transparent supply chain management, creation of community-based sustainable energy projects and sustainable agriculture sector. As this technology continues to evolve, its impact on combating climate change is likely to become even more pronounced. So, Blockchain Technology has the tremendous potential to significantly impact carbon emission reduction and improve carbon trading in India by providing transparency, security, and efficiency to the process.

**Shri. Vilas Tawade**
Member, Governing Council, MSBTE, Mumbai

## Poem on Blockchain Technology

Blockchain, oh so fine,
A technology that's truly divine,
It's decentralized, secure, and robust,
A game-changer for those who are lost,
In the world of finance and trade,
Blockchain is ultimate aid,
With its smart contracts and fast transactions,
It's revolutionizing industries with precision,
No more intermediaries & delay,
Blockchain is here to stay!

**Ivica Arcic, Chief Technology Officer,**
**Secure Worldwide Interbank Asset Transfer (SWIAT)**
(A poem about Blockchain created through ChatGPT)

**Theme of the next Issue:**

**Electric Vehicles and Green Mobility**

The current century is all about technology. As the requirement for innovation increases, people are willing to embrace various new technologies. One such technology that is expected to be as disruptive as the internet is Blockchain. It is expected to revolutionize not only the financial or healthcare sector, but many other industries, businesses, governments and even our own lives. Its evolution started in 1991, when Stuart Haber and Scott Stornetta developed blockchain technology to ensure the integrity of digital information. The purpose of the technology was to timestamp digital records so that they cannot be manipulated. The cryptographic techniques were used in the chain of blocks that were intended to protect digital records from data manipulation. However, the technology went largely unnoticed until Satoshi Nakamoto used it to create cryptocurrency Bitcoin in 2009.

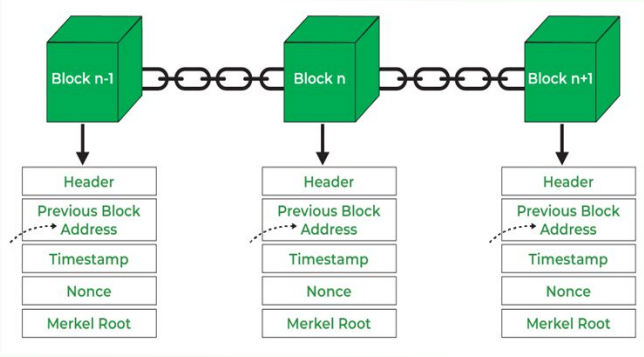
The main hypothesis is that the blockchain establishes a system of creating a distributed consensus in the digital information world. This allows participating entities to know with certainty that a digital transaction has occurred by creating an immutable record in the distributed ledger. It has garnered a lot of interest in recent years due to its features like transparency, immutability, decentralization and traceability. From enterprises to startups, banks to governments, everyone is interested to understand how blockchain can bring a paradigm shift in their working.

**What is Blockchain Technology?**

Blockchain is a secure, decentralized digital database of transactions managed by a network of computers responsible for recording transactions and tracking the movement of digital assets across the network. Each of one these computers, called a node, maintains a copy of the blockchain database (also called a digital ledger). All new entries in this digital ledger must first be reconciled before being added to the blockchain. Each block in the network is securely linked to the block before and after it, and stays in place even when the digital asset changes hands. Neither the order of the blocks nor the blocks themselves can be changed, making the information or data contained irreversible, immutable and essentially immune to tempering. When added, a new version of the digital ledger is created, it is sent to all nodes. While all blockchains are effectively peer to peer networks, linked via nodes that execute transactions and add new blocks, the pathways to those nodes can either be permissionless or permissioned. Within that choice of restriction lies four types of blockchains public blockchains, private blockchains, consortium blockchains and hybrid blockchains.

**Blockchain Protocols:** Blockchain protocols are the underlying rules, guidelines and algorithms that define and govern the operation of a blockchain network. These protocols define how data is stored, transmitted and validated across the network, ensuring data security, consistency and reliability. Blockchain protocols can vary greatly depending on the use case and the desired properties of the network (such as public, private or permissioned access). The decentralized nature of Blockchain is a fundamental principle of this technology meaning no centralized control. Protocols are used to make it work as intended. Peer-to-peer networks or nodes must be linked and keep a copy of the ledger because there is no centralized authority. The network also uses consensus technology to verify transactions into blocks. Once the blocks are built, they cannot be changed. Protocol is used for all of this. This works as a general rule.

**Blockchain Architecture:** Blockchain gets its name due to its architecture: data is stored in 'blocks' connected in a 'chain'. Blocks are data structures within the blockchain database, where transaction data on a blockchain are permanently recorded. A block records some or all of the most recent transactions not yet validated by the network. Once the transactions are validated, the block is closed. Then, a new block is created for new transactions to be entered into and validated. A block is therefore a permanent storage of records that cannot be modified or deleted once written.




**Components of a Block**

**Header**: It is used to identify the specific block in the entire blockchain. It handles all blocks in the blockchain. A block header is hashed periodically by miners by changing the nonce value as part of normal mining. The block header also contains three sets of block metadata.

**Previous Block Address/ Hash**: Previous block address/hash: Binds i+1th block with the ith block using the hash of the block. In short, this reference is the hash of the previous (parent) block in the chain.

**Timestamp**: It is a system that verifies the data into the block and assigns a time or date of creation for digital documents. The timestamp is a string of characters that uniquely identifies the document or event and indicates when it was created.

**Nonce**: A nonce is a number used only once. It is a central part of the proof of work in the block. It is compared to the live target if it is less than or equal to the current target. People who mine, test, and eliminate many Nonce per second until they find that Valuable Nonce is valid.

**Merkel Root**: It is a type of data structure framework of different blocks of data. A Merkle Tree stores all the transactions in a block by producing a digital fingerprint of the entire transaction. It allows the users to verify whether a transaction can be included in a block or not.

**How does Blockchain Technology work?**

Despite the complexity of the underlying blockchain mechanisms, a brief synopsis is given below. However, Blockchain software can automate majority of these steps:

**Step 1: Record the Transaction:** A blockchain transaction shows the movement of physical or digital assets from one party to another in the blockchain network. It is recorded as a data and can incorporate following details:

- Who was involved in the transaction?
- What has happened during the transaction?
- When, where and for what reason did the transaction occur?

- What amount of the asset was exchanged?
- What number of pre-conditions were met during the transaction?

**Step 2: Gain Consensus:** Most participants on the distributed blockchain network must concur that the recorded transaction is valid. Depending on the type of network, rules of agreement can differ nonetheless are typically established at the start of the network.

**Step 3: Connect the Blocks:** Once the participants have reached a consensus, transactions on the blockchain are inscribed into blocks alike to the pages of a ledger book. Alongside the transactions, a cryptographic hash is also annexed to the new block. The hash acts as a chain that links the blocks together. If the contents of the block are deliberately or unexpectedly changed, the hash value changes, providing a way to detect data meddling. Thus, the blocks and chains link securely, and one cannot edit them. Each additional block reinforces the verification of the previous block and therefore the whole blockchain.

**Step 4: Share the Ledger:** The system distributes the newest copy of the central ledger to all participants. A lot of blockchain projects are now moving towards an ecosystem without token or crypto. For instance, Hyperledger is an enterprise blockchain platform that does not have any native tokens to run the network.

**The Process:** First and foremost, a user or a node will initiate a transaction signing it with its private key. Essentially, the private key will generate a unique digital signature and ensure that nobody can modify it. Truly, if anyone attempts to modify the transaction information, the digital signature will change radically, and no one will be able to verify it. Therefore, it will be terminated. From that point onward, the transaction will get broadcasted to the verifying nodes. In essence, the blockchain platform can use variety of methods to verify whether the transaction is valid or not. These methods or algorithms are called consensus algorithm. At any rate, once the nodes verify that the transaction is authentic, it will get a place in the ledger. Likewise, it will contain a timestamp and a unique ID to secure it further from any alteration. The block will then link up to the previous block, and then a new block will form a link with this block and so on. And this way, it creates a chain of blocks, hence called blockchain.

**Blockchain Consensus:** Consensus is a method of reaching an agreement and it is a form of how individuals on the network can reach a resolution despite the fact that minorities dislike it. Consensus is one of the fundamental priorities of a blockchain as without it, thousands of nodes can never reach to an agreement. These methods exist to generate fairness and equality among all the participants. But there is no one way to reach a consensus within a system. Actually, there are lots of algorithms that various blockchain platforms use. Each one of them works differently and comes with its own set of flaws. The ones which are currently in use are: Proof of Work, Proof of Stake, Delayed Proof of Work, Delegated Proof of Stake, Practical Byzantine Fault Tolerance, Proof of Activity, and so on.

**Features of Blockchain Technology -** The primary features of the blockchain technology, which also showcase its benefit, are :

**Decentralization:** Blockchain operates on a decentralized network of nodes, eliminating the need for a central authority or intermediary. This decentralization enhances security, transparency, and trust in transactions.

**Immutability:** Once data is recorded on the blockchain, it is extremely difficult to alter. Each block contains a reference to the previous block through a cryptographic hash, creating a chain of blocks that is resistant to tampering.

**Transparency:** All participants in a blockchain network have access to the same information. This transparency fosters trust among users as they can verify transactions and data independently.

**Security:** Blockchain uses advanced cryptographic techniques to secure transactions and control access to data. Consensus mechanisms, such as proof of work or proof of stake, add an extra layer of security.

**Distributed Ledger:** The ledger is distributed among all participants in the network, and each participant has a copy of the entire blockchain. This distributed nature enhances resilience, as there is no single point of failure.

**Consensus Mechanisms:** Blockchain networks use consensus algorithms to agree on the state of the blockchain. These mechanisms ensure agreement among nodes and prevent double-spending.

**Anonymity and Pseudonymity:** While transactions are transparent, participants are often represented by cryptographic addresses rather than personal information. This provides a level of privacy and pseudonymity for users.

**Scalability:** Scalability has been a challenge for some blockchain networks, but ongoing research and development aim to address this issue. Solutions such as layer 2 scaling and improved consensus algorithms work toward making blockchain networks more scalable.

**Auditability:** Every transaction on the blockchain is recorded and timestamped. This provides an auditable trail of all activities on the network, which can be crucial for regulatory compliance and dispute resolution.

**Summing up**

In simple terms, blockchain technology is changing how many different industries work. Its unique features like decentralization, transparency, security, and immutability have created new avenues for innovation and efficiency. As various industries continue to adapt and integrate blockchain technology into their operations, one can expect to observe even more groundbreaking developments.

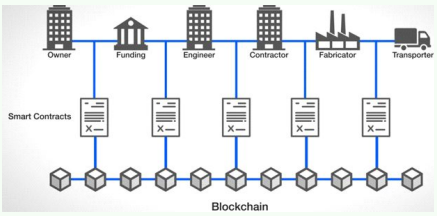
## MSBTE NEWS...

Hon. Shri. Vikas Chandra Rastogi, Principal Secretary, Higher & Technical Education Deptt. visited MSBTE on 22nd Dec. 2023. Dr. Vinod Mohitkar, Director, DTE was also present along with Governing Council Members of MSBTE on this occasion.

With technology advancing at a fast pace, Blockchain has emerged as a game changer that could revolutionize industries. Civil engineering is one field that can greatly benefit from this transformative technology. Originally designed for cryptocurrencies, like Bitcoin, Blockchain has now expanded its reach to various sectors. Its decentralized and secure nature makes it well suited to tackle the challenges faced by the civil engineering industry.

**Promoting Openness & Building Confidence:** One major benefit of this technology lies in its capacity to establish an easily understood record. In civil engineering endeavours, openness plays a role in nurturing confidence among all parties involved such as clients, contractors and regulatory entities. Through the implementation of Blockchain, project participants gain access to a shared ledger that's both tamper proof and inclusive of all transactions, contracts and project updates. This level of transparency not only mitigates the risk of deceit, but also bolsters accountability, ultimately fostering an environment built on trust and collaboration.

**Smart Contracts for Efficient Project Management:** Smart contracts are contracts that have their terms written directly into code and can execute themselves. They provide advantages in project management in civil engineering. This field involves stakeholders and intricate contractual relationships. Smart contracts can simplify and automate various processes. By encoding payment milestones, project deadlines and compliance requirements into contracts we ensure that contractual obligations are automatically met once specific conditions are fulfilled. This not eliminates the need for intermediaries but also reduces the likelihood of disputes and delays.




**Blockchain Revolutionize Civil Engg.**

**Supply Chain Management & Material Traceability:** The construction industry relies heavily on a complex supply chain, involving numerous suppliers and materials. Blockchain Technology can enhance supply chain management by providing a transparent and traceable record of every transaction within the supply chain. This ensures the authenticity of materials, helps prevent counterfeiting, and allows for real-time tracking of the movement of goods. Improved traceability not only enhances efficiency of the supply chain but also contributes to sustainability efforts by enabling better management of resources.

**Quality Assurance & Documentation:** Ensuring the quality of construction projects is of utmost importance in civil engineering. Blockchain can be employed to create a secure and unalterable record of project documentation, including design plans, inspection reports, and quality assurance data. This not only helps in maintaining a reliable history of the project but also assists in meeting regulatory compliance standards. The decentralized nature of Blockchain ensures that all relevant parties have access to the most up-to-date and accurate project documentation, reducing the risk of errors & ensuring quality of the construction.

**Securing Intellectual Property & Innovation:** Innovation plays a vital role in the progression of civil engineering, and protecting intellectual property is a critical aspect of fostering a culture of innovation. Blockchain's decentralized and secure nature can be leveraged to safeguard intellectual property rights by providing an unchangeable record of ownership and innovation timelines. This not only protects the interests of inventors and designers but also encourages a collaborative environment where innovative ideas can be shared without fear of unauthorized use.

**Conclusion :** As Blockchain Technology continues to evolve, its integration into civil engineering processes holds immense potential for transforming the industry. From enhancing transparency and trust among stakeholders to optimizing project management through smart contracts, Blockchain offers a versatile set of tools that can address many of the challenges faced by the civil engineering sector. Embracing Blockchain technology is not just a technological advancement; it represents a shift towards a more efficient, transparent, and collaborative future for civil engineering projects. As the industry adapts to these innovations, the benefits of blockchain technology are poised to reshape the way civil engineering projects are conceived, managed, and executed.

**Kishor Trimbakrao Parjane**

Director, SaiNirmiti Developers, Kopargaon. (Engineer /Govt. Contractor)

## Blockchain's Diverse Applications and Integration with IoT

In modern technology, Blockchain stands as a revolutionary innovation with transformative potential across numerous industries. The Blockchain Technology applications have expanded far beyond cryptocurrencies, offering a decentralised & secure framework for a myriad of sectors. From healthcare to supply chain management, and from vaccine supply system to official document verification, Blockchain has emerged as a catalyst for innovation and efficiency.

**Understanding Blockchain's Potential:** At its core, Blockchain is a decentralized, distributed ledger technology that records transactions across multiple computers in a secure, transparent, and immutable manner. This characteristic makes it exceptionally suitable for sectors that require trust, transparency, and security. One of its primary advantages is its ability to provide an unalterable data record, ensuring transparency and reducing the risk of fraud or tampering.

**Blockchain in the Medical Sector:** Healthcare is an area where data integrity and security are paramount. Blockchain's application in this sector ensures the secure storage and sharing of patient records, maintaining privacy and confidentiality while allowing authorized access to pertinent information. This technology streamlines data management, enhances interoperability between healthcare providers, and facilitates better patient care by ensuring accurate and updated medical records. Moreover, Blockchain aids in drug traceability, ensuring the authenticity and integrity of pharmaceutical supply chains. It helps in tracking the entire lifecycle of a drug, from production to distribution, reducing the likelihood of counterfeit medications entering the market.

**Vaccine Supply Systems:** In the case of vaccine supply systems, Blockchain's capabilities ensure the authenticity of vaccines,

streamline distribution, and help maintain optimal storage conditions.

**Official Documents & Identity Verification:** Blockchain technology enhances the security and authenticity of official documents like birth certificates, land titles, and academic records. By storing these records on a decentralized ledger, it minimizes the risk of fraudulent activities, ensuring the validity of documents and simplifying verification processes. Real-life examples of certificates given by Govt of Maharashtra for Elevator Operations in Societies are now blockchain-verifiable.

**Integration with IoT - The Emergence of BioT:** Integrating Blockchain with the Internet of Things (IoT) holds tremendous promise. Combining the decentralized ledger of Blockchain with IoT's network of interconnected devices creates Blockchain-based IoT (BIoT). This amalgamation enhances the security, reliability, and scalability of IoT networks by providing a tamper-proof record of device interactions. BIoT ensures the integrity of data generated by IoT devices, making it invaluable in critical sectors like healthcare, manufacturing, and smart cities. It enables secure and autonomous device-to-device communication while ensuring data privacy and mitigating security threats.

**Potential for Improved IIoT and Cyber-Physical Systems:** In the Industrial Internet of Things (IIoT) and Cyber-physical systems, the integration of Blockchain brings forth enhanced security, trust, and efficiency. By leveraging Blockchain's immutable ledger, IIoT applications can guarantee the integrity of data exchanged between interconnected devices in industrial settings. This ensures the reliability of critical processes, minimizes downtime, and strengthens the resilience of industrial systems against cyber threats. Furthermore, Blockchain-based IIoT enhances transparency in supply chains, enabling real-time monitoring of manufacturing processes, logistics, and inventory management. This integration fosters greater efficiency, reduces operational costs, creates interconnected & secure industrial ecosystem.

**Conclusion-**Blockchain technology has already showcased its transformative potential across various sectors, promising increased efficiency, transparency, and security. Its integration with IoT further elevates its capabilities, paving the way for Blockchain-based IoT and significantly enhancing the reliability and security of interconnected systems. As industries continue to explore and adopt Blockchain, its integration with IoT holds the key to a future where trust, transparency, and efficiency converge to redefine how businesses operate and how data is managed securely in our increasingly interconnected world.

**Monu Shetty**
Blockchain Enthusiast, Partner & COO, Axenous

## Future of Blockchain Technology

Technology is becoming very important and will be used more in future. We use different types of technology in our everyday lives more than ever before. Currently, Blockchain Technology has several applications in various industries and sectors across the world. Some sectors/ industries have also adopted this technology in India. While others are planning to adopt the Blockchain Technology in future. Let us look at some places where the Indian Government is thinking of using Blockchain Technology.

**Telecom Sector**: TRAI wants telecom companies to use Blockchain Technology. Blockchain Technology can help stop spam calls in the telecom industry. Using Blockchain Technology will allow the authorities to find unregistered telemarketing companies. Telecom companies think that using Blockchain and AI will fix a lot of the problems in the telecom industry.

**Blockchain for Secured Voting**: Three students at Malla Reddy Engineering College for Women have proposed a new idea. They showed how we can use Blockchain Technology to make voting safer in our country. The students tested their idea in a few neighbouring places and found that it would work well in real life.

**Securities and Exchange Board of India (SEBI)** : All depositories have been mandated by the Securities and Exchange Board of India (SEBI) to adopt Blockchain Technology for record-keeping. This will improve transparency in the record-keeping process as well as the process of tracking the formation of securities and collaterals of non-transferable securities.

**The Tea Board of India**: In order to improve traceability in the supply chain, the Board of Tea is planning to implement Blockchain Technology. The Tea Board has been experiencing a deterioration in quality of tea because of adulteration in the supply chain. Blockchain Technology will help in maintaining traceability at every stage of the supply chain. This will increase accountability at each stage and allow the authorities to identify and remove the problem areas.

In addition to above mentioned sectors that have already adopted this technology or are in process of adopting it, there are many more sectors in which the Government is planning to introduce adoption of Blockchain Technology. In fact, the Indian Government is planning to set up a National Blockchain Framework that will transform the future of 44 industries.

Government is taking efforts to make it easier and faster to adopt this new technology in the near future. Blockchain Technology would help in transforming or removing some of the major issues in the various essential services provided by the government. Therefore, in the near future, the acceptance and adoption of Blockchain Technology will push India to a new level and also help it to rank higher among the progressive nations.

**Mr. J. M. Gedam**
Lecturer, Electronics Engg. SLMCOP, Amgaon, Gondia

## Blockchain Technology Revolutionizing Technical Education

Today, Blockchain Technology has emerged as a disruptive force that holds immense potential in reshaping how technical education is delivered, validated, and accessed. Let us explore the various ways in which blockchain technology can revolutionize technical education:

**Immutable Academic Records:** One of the primary advantages of Blockchain in technical education is its ability to create tamper-proof and transparent records of academic achievements.

Traditional paper-based certificates and transcripts are susceptible to fraud and manipulation. Blockchain ensures that once information is recorded, it cannot be altered, providing a secure and immutable ledger of a student's academic journey. This transparency enhances the credibility of academic credentials and mitigates the risk of fraudulent claims.

**Streamlined Credential Verification:** Blockchain facilitates instant and decentralized verification of academic credentials. Employers can easily verify authenticity of a candidate's qualifications by accessing the Blockchain. As a result, hiring process becomes more efficient, and employers can make well-informed decisions based on verified and trustworthy information.

**Decentralized Learning Platforms:** Blockchain can decentralize learning platforms, enabling a more personalized and secure learning experience. With Blockchain, students can have ownership of their educational data and control who has access to it. This fosters a sense of autonomy and privacy, which is particularly important in digital age where data security and privacy concerns are paramount. Decentralized learning platforms have the potential to reduce reliance on centralized authorities, making education accessible to individuals around the globe.

**Smart Contracts for Academic Agreements:** Smart contracts, self-executing contracts with the terms directly written into code, can streamline various administrative processes in technical education. From student enrolment to fee payments to course completion and certification issuance, smart contracts can automate these processes, reducing administrative burdens and likelihood of errors. This automation leads to increased efficiency and a more seamless experience for students and institutions.

**Micro-Credentialing & Continuous Learning:** Blockchain enables the creation and recognition of micro-credentials, which are smaller, specialized certifications that validate specific skills or knowledge areas. This is particularly beneficial in the rapidly evolving field of technology, where skills become outdated quickly. With Blockchain, individuals can accumulate and showcase their portfolio of micro-credentials, demonstrating their continuous learning and adaptability to employers.

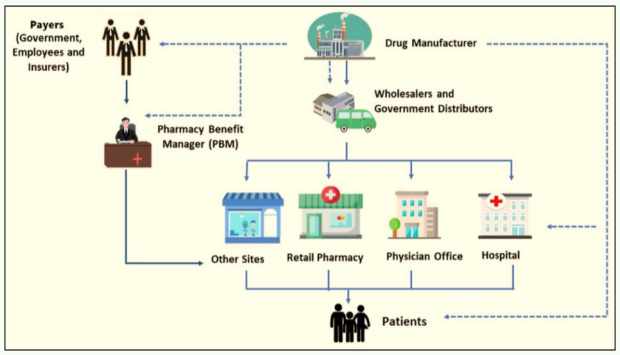
**Conclusion:** As technical education continues to evolve, embracing Blockchain Technology can pave the way for a more secure, transparent, and efficient system. From safeguarding academic records to enabling decentralized learning platforms, Blockchain has the potential to redefine the educational landscape. Institutions that pro-actively incorporate Blockchain solutions stand to benefit from improved credibility, streamlined processes, and enhanced opportunities for their students in the ever-competitive technical job market. The future of technical education is undeniably intertwined with the transformative power of Blockchain Technology.

**Prof. Y. R. Gurav**
Principal, Ashokrao Mane Polytechnic, Vathar, Vadgaon, Kolhapur

## Blockchain Ensuring Drug Traceability and Security

The pharmaceutical supply chain is an intricate network involving various stakeholders, ranging from manufacturers and distributors to healthcare providers and regulatory bodies. The imperative of ensuring the integrity and authenticity of pharmaceutical products for patient safety and regulatory compliance has led to the exploration of innovative solutions,

among which innovative solutions, among which Blockchain Technology stands out. This technology holds significant promise not only in ensuring the authenticity of medicines but also in streamlining processes and enhancing overall efficiency in the pharmaceutical world. A key advantage lies in drug traceability, as Blockchain provides an immutable and transparent record of every transaction within the supply chain. From raw material acquisition to the end consumer, each step in the production and distribution process is securely and tamper-proof documented, minimizing the risk of counterfeit drugs entering the market and enabling rapid identification of compromised products. Moreover, blockchain's decentralized nature contributes to improved supply chain efficiency by minimizing paperwork, reducing delays, and optimizing inventory management. Real-time visibility into the pharmaceutical movement allows stakeholders to respond swiftly to supply chain disruptions, ultimately enhancing operational efficiency. Another significant application of blockchain in pharmacy is the integration of smart contracts, executable programs within the




Blockchain, to automate and enforce regulatory compliance. Smart contracts, programmed to initiate actions based on predefined conditions, streamline compliance processes, reduce the potential for human error, and enhance overall regulatory adherence across all supply chain participants. The technology also addresses concerns related to data security and privacy by leveraging cryptographic principles to encrypt and store sensitive information, such as patient details, manufacturing records, and distribution data, in a decentralized manner. Blockchain provides granular control over access permissions, mitigating the risk of data breaches and ensuring compliance with stringent data protection regulations. Looking ahead, the future directions of blockchain in the pharmaceutical industry include efforts to enhance interoperability between different blockchain networks, integration with emerging technologies like the Internet of Things (IoT), and the establishment of industry-wide standards. These developments are anticipated to further amplify the effectiveness of blockchain in pharmacy, paving the way for transformative advancements in drug safety and supply chain management. In conclusion, blockchain technology represents a paradigm shift in the pharmaceutical supply chain, offering a secure, transparent, and efficient framework for managing drug manufacturing and distribution intricacies, with ongoing evolution promising profound transformative impacts on drug safety and supply chain management.

**Prof. Nilesh S Pendbhaje**
Principal, Sanjivani Inst. of Pharmacy & Research, Kopargaon

Hey there! Ever wonder how our digital world keeps things honest and secure? That's where Blockchain swoops in like a superhero. Let's break it down!

**What's Blockchain? -** Think of it like a super-secure digital notebook. But here's the cool part – it's not owned by one person. Instead, lots of computers team up to keep it safe.

**How Does it Work? -** When you do something online, like buying a game, that action gets put into a "block." Then, it's linked to the stuff people did before. This creates a chain of blocks – a Blockchain! And because everyone has a copy of this chain, it's nearly impossible to mess with.

**Why is it Awesome? -** Two big reasons: transparency and security. Everyone can see what's in the digital notebook, making things super clear. Plus, it's like a high-tech fortress – really hard for bad guys to sneak in and change things.

**Beyond Money: What else can it do? -**Sure, Blockchain rocked the world with Bitcoin, but it's not a one-hit wonder. It's like a multitasking champion. Businesses are using it to keep track of products, doctors are using it for medical records, and it can even handle agreements without needing a middleman. We call these super-smart agreements "smart contracts."

**Any Hurdles? -** Yes, every hero has its challenges. For Blockchain, it's things like getting even better at handling lots of actions at once and figuring out the rules (the legal stuff). But tech whizzes are on the case, working to make it even more awesome.

**Final Thoughts: A Digital Revolution -**So, in a nutshell, Blockchain is like the superhero of our online world – making things clear, keeping them safe, and opening the door to a future where trust rules the digital realm. Exciting times ahead!

**Pratik Machindranath Bhosale**

(FYCO), JSPM Polytechnic, Pune

## Future of Blockchain Technology

The ongoing Fourth Industrial Revolution is marked by transformative technologies, with Artificial Intelligence, Quantum Computing, and Blockchain emerging as prominent leaders. Blockchain, in particular, stands out for its decentralized and transparent ledger, enhancing security, trust, and transaction efficiency. It is poised to revolutionize sectors like finance, healthcare, manufacturing, and supply chain management. Applications such as smart contracts and decentralized finance streamline processes, reducing reliance on intermediaries and fostering a more interconnected and transparent digital economy.

Transitioning from web2 to web3, Blockchain holds immense potential, especially with the significant growth of decentralized finance (DeFi) currencies. While challenges, including security and governance control, loom on the horizon, the younger generation is expected to reshape the fundamentals of Blockchain technology.

As an ardent believer in Blockchain's future, I emphasize its transformative power. Starting a programming journey now presents abundant self-opportunities for development, with every web2 project becoming an innovation in the web3 realm. Despite limited job openings currently, the advent of quantum computing positions Blockchain as a robust defence against brute force attacks.

Beyond security, Blockchain's applications are vast, from tracking lifelong healthcare records to maintaining incorruptible government records. Companies can ensure the validity and authenticity of user-provided records, showcasing the technology's versatility. In essence, Blockchain has the potential to transfer and update everything globally.

In conclusion, while job opportunities may seem limited now, Blockchain offers students a platform to develop and create their opportunities. It is not just a technology but a transformative force shaping the future across various sectors.

**Jinit Jasani**

TYIF, Thakur Polytechnic, Mumbai

## Blockchain Technology in Mechanical Engineering

Blockchain Technology has the ability to transform manufacturing industry through factory automation, product provenance (traceability from their creation to their use), IP protection, regulatory compliance, IOT automation, and so much more. There are so many problems in manufacturing that can be resolved with Blockchain. In manufacturing, instead of having 2D blueprints of a product's lifecycle, Blockchain provides a 3D digital thread of instructions that are electronically communicated in chronological order throughout the process. This eliminates the need for human interpretation, translation or data transfer, which equals saved time and money.

Blockchain Technology is being applied in one of the largest tasks undertaken by manufacturers: supply chain management. Blockchain boosts the track-and-trace function used by many manufacturers to determine past and current locations of materials, parts, and products used in their day-to-day processes. The Blockchain Technology gives the digital Engineering Designers /Internet users from the regional design centres, the opportunity and ability to create value and authenticate digital information and the changes recorded during the process. This new business application has opportunities for a meaningful approach for successful execution of projects with quality, on time and within budget cost. A combination of software (PLC/DCS/ESD/SCADA), smart sensors, and the network with smart gateways for meeting communication protocols, facilitates an exchange of data between objects and mechanisms from multiple global vendors. The result increases system efficiency and improves performance monitoring with better energy management. Cryptographic mechanisms ensure that communication between devices is secure and that logs of data flows are maintained as permanent records. Transparency ensures that the details of data flows, such as who, what, when and where has accessed the data, are visible. This could create greater interest in design and quality control and also potentially speed up the process of learning from defects/malfunctions and accidents. So it's applications includes supply chain management, tracking authenticity of supplies, compliance & responsible sourcing, equipment maintenance, product life-cycle monitoring, inventory management & Quality Control.

**Shivam Khetan**

3rd Y, Mech. Engg., G P, Khamgaon

**Shri. Vivek Naik**, Managing Director, Apple Chemie India Pvt. Ltd., Nagpur, is currently also associated with Asian Concrete Institute as Executive VP, Industry 4.0 and also part of Bureau of Indian Standard Committee CED-2. He has worked on repair & rehabilitation of many ordinance factories, defence structures, underground structures, power plants, manufacturing industries, textile industries, etc. He has 40+ years of experience in Repairs, Rehabilitation & Waterproofing of new, old and heritage buildings. He has delivered more than 400 lectures in India and abroad. He is also motivator and speaker for 'Start Ups' and 'Make in India' programs. He was awarded "Product Innovator of the Year" in 2015 by FICCI for his exemplary innovation "ViscoFlux" at the MSME forum. He has filed 6 patent concerning sustainable materials.

**Shri. Manoj Deshmukh**, Founder & Director at Eteva Tech Consulting and iConnect Info Solutions, is a technology visionary with over 23 yrs of experience in transforming ideas into tangible solutions. His expertise spans across product architecture, web and mobile apps, contributing to global tech spaces. He led as a Architect at L&T Infotech. He empowered the Product Development team at SunGard Availability Services, LLC. At Infosys Technologies Ltd., he drove enterprise, solution, and application architecture and design service offerings. Beyond his technical prowess, he is deeply committed to mentoring IT professionals, guiding over 50 individuals. His collaboration with Fortune 500 companies and startups showcases his versatile skill set and dedication to nurturing talent and innovation in the tech industry.

**Shri. Hemant Chafale**, CEO & Co-founder, Trust Fintech Limited, Nagpur, started his entrepreneurship journey in 1997 by setting up Trust Systems and Software (I) Pvt. Ltd. His company is working in BFSI sector, provides Core Banking software for all types of financial institutions such as all types of Banks, Co-op Societies, NBFC etc. He also works as Implementation Partner for SAP B1 (ERP for small and mid-size companies). He is a Co-Founder of Vidarbha Vaibhav, an NGO working as a catalyst for about 70 NGOs in Vidarbha region. He is also the Director, Nagpur Nagric Sahakari Bank Ltd., one of the leading scheduled multistate commercial Bank. His industrial experience includes Bombay Dyeing and Manufacturing Company Ltd, Patalganga, ESSAR Steel Ltd Hazira, Surat and Indorama Synthetics Ltd., Butibori, Nagpur.

**Shri. Rajesh Solanki**, Managing Director & Founder, Miraj Engineering Services Pvt. Ltd., has over 25 years of experience in the field of Electrical & Instrumentation Erection Services for power,refineries chemicals, fertilizer & other industries. Started his business at age of 22 years. His company, Miraj is one of the leading service providers for Electrical & Instru. Services in India & across the Globe. Miraj has executed work for reputed Multinationals in more than 12 countries. He is founder of 'Udaan Ek Samajik Pratishthan' through which they wish to tackle every issue in the underprivileged society. He received "ICONS OF THANE & BEYOND" in 2019 -2020 by Economics Times and "ET INDUSTRY LEADERS WEST" in 2020 – 2021 by Economic Times for providing exemplary services in the Engineering Category.

**Shri. Dhananjay Balwant Bapat**, Managing Director, Shri Narakesari Prakashan Ltd., Nagpur and Director, Dhanraj Constructions, Nagpur, is a Civil Engineer and a Builder with 40 years' experience in Construction Engineering & Management. Built prestigious projects like Hindustan Lever factory & Staff Quarters Colony in Yavatmal in 1994 apart from numerous Residential Housing Complex Projects in Nagpur. A wildlife enthusiast and founder of "Water is Life" Society, he provided permanent watering facilities to wild animals at various places in Tadoba Andhari Tiger Reserve (TATR) region by installing solar pumps in the last 7 years. He is member of Maharashtra State Wildlife Board and was awarded "Vyaghra Mitra Puraskar", by Govt. of Maharashtra in 2014.

**Dr. Suhas S. Gajre**, Ph.D. from Indian Institute of Technology, Delhi, is currently working as Principal, Govt. College of Engineering, Jalgaon. Earlier, he was Dean (Innovation, Incubation, and Linkages) at Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded, as in charge of activities of innovation, startup, incubation, and entrepreneurship in the institute. He was also coordinator of SGGSIET-AICTE IDEA lab - one of the 90+ such labs in India - in which students do prototyping of their ideas. He is a Fellow of IETE, Fellow of IE(I) and life member of ISTE. Dr. Gajre has published more than 50 peer reviewed research papers. His research interests include Biomedical Signal and Image Processing, Deep Learning, VLSI design, and enabling startup ecosystem through innovation and incubation.

**Dr. Ashish Anant Ukidve,** Principal, Vidyalankar Polytechnic, Mumbai, has over 35 years of experience in Diploma engineering education at various levels including lecturer, HoD and Principal. He worked as an IT Consultant for AICTE for e-Governance project. He worked as DTE approved GDPI panel member for MMS Course. He carried out Consultancy and Cyber Security audits in and out of India for clients like Axis Bank, Yes Bank and SOX Audit at Tokyo, Japan. Published more than 20 research articles in International Journals and authored several books in the domains of Computer and Network Architecture, Data Structures and Cyber Security. He is Life Member of Indian Society of Technical Education (ISTE) as well as Life Member of Computer Society of India (CSI).

**Smt. Padmaja Bhanu B.**, Principal, K J Somiya Polytechnic, Mumbai, is M. Tech in Communication Engineering from IIT Bombay. She is working as Principal in the Polytechnic for about 20 years. As a leader, she has been always expanding horizons through community polytechnic. Involved in the development of Labs and Curriculum in the Industrial Electronics Department of the Polytechnic. Presented Papers in various National and International Conferences. Her subjects of interest for teaching are Microprocessors, Advanced microprocessor, Embedded Systems, Circuits & Networks, Data Communication and Principles of Communication Engineering. She has guided 40 projects at Diploma Level and 15 at Degree Level.

**Smt. Sandhya Vishnu Karande,** HoD, Electronic & Telecommunication Engineering, Guru Gobind Singh Polytechnic, Nashik, has about 30 years of teaching and administrative experience. She was involved in the development of Laboratories in Electronics & Telecommunications department in GGSP and guided many projects based on hardware and software. She is associated with various professional bodies like IETE , IEI, ISTE and ISC. She has participated in more than 60 conferences/workshops/seminar/ Faculty Development Programs. She has participated in activities related with MSBTE like Subject Expert for 'I Scheme' Curriculum, Lab Manuals/Learning Material and Teachers Guide. She has filed one Patent with Students.

**Smt. Jyoti Ramrao Hange**, HoD, Computer Engineering, Government Polytechnic, Pune, has over 30 yrs experience in teaching and administration in various positions at various Government Polytechnics. Her areas of interest include Artificial Intelligence and Machine learning, Cloud Computing Resource Management, Data Science and Programming Languages. She delivered expert lectures in various national level Seminars and Workshops. In 2023, she received Certificate of Appreciation from Principal, Govt. Polytechnic, Awasari for NBA SAR work done. as well as Certificate of Appreciation from Govt. Polytechnic, Pune for Skill Test Conducted for Recruitment of Class III in 2023.

## MSBTE's Industrial Training at L&T Skill Trainers Academy, Madh


MSBTE has organized one weak Industrial Training for faculties of various Polytechnics on **"Emerging Trends in Electrical Engineering"** from 26th October to 1st November 2023 in Larsen & Toubro Ltd.(L & T Skill Trainer Academy), Madh Campus. Mumbai. The training covered various emerging trends like Industrial IoT, Smart Grid and Electrical System in Smart cities, Solar Power System, Virtual Reality, Mind Mapping, Safety, Value added Engineering etc. This training also included one industrial visit and Hands on Practical training. The program was highly appreciated by faculties who attended this program.

## Ph.D Awarded

**Shri. Pravin Balasaheb Khatkale**, HoD, Department of Mechatronics of Sanjivani K. B. P. Polytechnic, Kopargaon has successfully completed his Ph.D in Electronics and Communication Engineering from Shri. Jagdishprasad Jabharmal Tibrewala (JJTU) University, Rajasthan, in December 2023 under the guidance of Dr. Alok Agarwal, Professor, ECE Department, JJTU University and Dr. Anil B Pawar, Dean Academics, Sanjivani College of Engineering, Kopargaon. Topic of his thesis: "Effectiveness of Zernike Moment and Partial Features on Robust Iris Recognition".

**Smt. Rupali Vinayak Patil**, Lecturer, Department of Humanities, Sinhgad Institutes' Sou. Venutai Chavan Polytechnic, Pune, has successfully completed her Ph.D in English Literature from Institute of Advanced Studies in English, Savitribai Phule University, Pune, in November 2023 under the guidance of Dr. L.G. Patil, Former Head, Department of English, A.T. College, Bhor. Topic of her thesis: 'Unfolding the Protagonists of Selected Novels of Kazuo Ishiguro.'

## Best Polytechnic Principal: ISTE Award 2023

Prof. Gajanan Revansidha Dharane, Principal, Shri Siddheshwar Women's Polytechnic, Solapur, is awarded Best Polytechnic Principal (Diploma level) under ISTE Maharashtra-Goa Section Award 2023 during 23rd Annual Faculty Convention 2023 held at Ch. Shahu College of Engg., Ch. Sambhajinagar, Maharashtra, on 25th Nov. 2023. Dr. Vinod Mohitkar, Director, DTE, Mumbai and Dr. Karbhari Kale, VC of DBATU, Lonere presented the awards.

## Best Teacher Award- Diploma : ISTE Award 2023

Mr. D.V. Lohar, HoD, Mechanical Engineering, from SNJB's Shri Hiralal Hastimal (Jain Brothers Jalgaon) Polytechnic, Chandwad, has received 'Best Teacher Award- Diploma' by Indian society for Technical Education (ISTE) Maharashtra and Goa Section for the year 2023. The award ceremony was organised at Auditorium of CSM College of Engineering, Ch. Sambhajinagar on 25th Nov. 2023.

## FDP on "Training on National Board of Accreditation"

Three days Faculty Development Program titled "Training on National Board Accreditation" was organized by Mechanical Engineering Deptt. of MIT Polytechnic, Ch. Sambhajinagar from 6th to 8th Oct. 2023. During this program, eminent educationist like Prof. M.B. Sanap, Lecturer, Government Polytechnic, Ambad, Dr. Smita Kasar – HoD, Computer Science, MIT, Ch. Sambhajinagar and Prof. N. G. Deshingkar- HoD, Civil Engg., MIT Polytechnic, Ch. Sambhajinagar, discussed in details topics related with NBA Accreditation. This workshop ended with the hands-on training provided by Prof. S. B. Maknikar, Central NBA Coordinator.

## FDP on "Exploring Perspectives of AI and ML in Mechanical Engineering"

Mr. Jayant Bhausaheb Rajole and Mr. Swapnil Prabhakar Godase, from Mechanical Engineering Department of K.K. Wagh Polytechnic, Nashik attended AICTE sponsored ATAL Faculty Development Program titled "Exploring Perspectives of AI and ML in Mechanical Engineering" organized by K. K. Wagh Institute of Engineering Education and Research, Nashik, from 27th November to 2nd December 2023.

## Faculty Workshop on Internal Institutional Growth

MSBTE sponsored one-day training program on 'Internal Institutional Growth' on 31st Oct. 2023 at Guru Gobind Singh Polytechnic in Nashik. This initiative, attended by notable figures like Shri. Balbir Singh Chhabra, Shri. Kuljeet Singh Birdi and Dr. Omprakash G. Kulkarni, who emphasized the vital role of continual education and innovation in sustaining institutions. The event brought together educators, professionals, and institutions to share experiences, knowledge and valuable guidance. Shri. Rajesh Khamkar provided insights into essential skills for institutional progress, while networking opportunities paved the way for idea exchange and imaginative thinking.

### "Student of the Year Award 2023" by Print Week India


Ved Vikas Bachhav, third year pass out student of PVG's Maharashtra Institute of Printing Technology, Pune, has been awarded national level "Student of the Year Award 2023" by Print Week India on 30th Oct. 2023 at Mumbai. The Print Week Awards 2023 are an annual event that recognises outstanding achievements in the printing and packaging industry. The awardee displayed not only exceptional academic ability but also demonstrated leadership abilities, community involvement, and a commitment to personal growth.

### Bronze Medal in Acrobatic Gymnastic Asian Championship

Shri. Harshal Athawale, student of 3rd year Computer Engg, has brought laurels for MIT Polytechnic Ch. Sambhajinagar. By Representing India Team & Winning a Bronze Medal in the Men's Pair (Junior) event in the Acrobatic Gymnastic Asian Championship held at Tashkent, Uzbekistan, during 18th to 20th Oct. 2023. Heartiest Congratulations to Harshal Athawale for this commendable achievement.

### Best Innovative Project Award- Diploma : ISTE Award 2023

Sagar Yeshi, Pankaj Pawar, Shri. K. S. Sonawane (Guide) from SNJB's Shri Hiralal Hastimal (Jain Brothers Jalgaon) Polytechnic, Chandwad, received 'Best Innovative Project Award- Diploma' by Indian Society for Technical Education (ISTE) Maharashtra and Goa Section for the year 2023. The award ceremony was organised at Auditorium of CSM College of Engineering, Ch. Shambhajinagar on 25th Nov 2023.

### Expert Talk on Telecommunication Emerging Trends


Guest lecture on "Telecommunication Emerging Trends" was organized on 7th October 2023 at Puranmal Lahoti Govt. Poly., Latur under ISTE Student Chapter. On this occasion, Mr. S. S. Shastri, Jr. Telecom Officer, BSNL, (an alumni of the Institute) addressed students of the institute. As the world is becoming increasingly connected, the demand for telecom professionals is only set to rise. So, the expert discussed about how industry has undergone significant changes in recent years, with the advent of 5G technology, IoT devices, and cloud-based services. The Digital India initiative also bringing new prospects for students.

### Workshop on "Rubicon Life Skills Program"

A workshop on "Rubicon Life Skills Program" was arranged by Training and Placement Cell of G P, Washim, from 2nd to 4th Nov. 2023. The objectives of this workshop were to build self-confidence, encourage critical thinking, foster independence and help students to communicate more effectively. Around 230 final year students of the institute attended this workshop. Komal Nagre, Snehal Nagre and Mirza Arshad Baig were expert trainers who personally guided students to enhance their social and emotional development skills.

### Drx Cup 2023 Winter Cricket Tournament

R. G. Sapkal Institute of Pharmacy, Anjaneri, sponsored inter-collegiate DRx Cup 2023 Winter Cricket Tournament for Pharmacy students. The competition was conducted from 2nd to 7th December 2023 where 20 teams participated. Rashtrasant Janardhan Swamy College of Pharmacy, Kopargaon emerged victorious and won the DRx Cup 2023 Trophy. The runner-up team, Sandeep University School of Pharmacy, Mahiravani, Nashik, was also awarded on this occasion. All other participating college teams were honoured with mementos and certificates of participation.

### Electoral Literacy Club

Electoral Literacy Club was inaugurated at Government Polytechnic, Thane. This program was organised on 27th October, 2023 under the Chairmanship of Dr. Shri Dattatray Mahajan, Principal, Government Polytechnic, Thane in collaboration with District Election Officer's Office and Voter Registration Officer's Office in Thane. The program provided insights into Civic Awareness and the importance of elections. Smt. Aade, Deputy Tehsildar, Mumbra Division and Shri. Haroon Sheikh, Shri. Sachin Darade, Shri. Nilesh Sonavane and Shri. Prashant Pawar from the Kalyan Rural Department were also present at the event.

## Central Bank Digital Currency (CBDC)


CBDC, short form of "Central Bank Digital Currency," is a digital version of national currencies issued by central banks. CBDC, a digital version of a country's paper currency, is backed by the government and is legal tender. Main goal of CBDC is to improve the efficiency of payments and reduce the cost of printing, storing and transporting physical money. Examples - Digital Yuan, Digital Dollar, Digital Euro, Digital Rupee etc. Still in development & testing stage, but hopefully soon these will be ready for public use. CBDC operates on a secure and transparent Blockchain network which creates an immutable record of all transactions, making it easier to track the movement of money. Thus, reducing risk of money laundering and terrorist financing. It also enables creation of programmable money that can be spent only on specific things. For example, a government could issue a stimulus package to be spent on certain goods and services, ensuring money is spent in the envisioned manner thus reducing the menace of fraud.

In recent years, Reserve Bank of India (RBI) has released a concept note on its plans to launch CBDC, known as the e-Rupee. This digital form of the Indian rupee will be interchangeable one-to-one with the physical currency and will have the same value and sovereignty as the fiat currency. RBI has launched pilots of CBDC in both Wholesale (on 1st November 2022) and Retail (on 1st December 2022) segments. The pilot in wholesale segment has use case being limited to the settlement of secondary market transactions in government securities and is expected to make the inter-bank market more efficient. The test pilot in retail segment using Blockchain Technology, known as digital Rupee-Retail (e₹-R), launched within a closed user group (CUG) comprising of participating customers and merchants.

## Web 3


Future of innovative Internet, Web 3 (third generation of the internet) was introduced by Ethereum co-founder Gavin Wood who envisioned the idea of an Internet where power is decentralized unlike the present centralized structure. Presently, global entities - Alphabet, Microsoft, Meta, Apple and Amazon own the biggest share of information on the Internet. They control and manage what goes into the web. Gavin proposed a decentralized Internet where everybody will get the right to own and control information. Web 3 supports digitalization and promotes an open-source decentralized web model. Web 3 aimed at being a more autonomous, intelligent, and open internet. Firms and developers will put their energy to craft solutions that will use Blockchain to unleash the potential of Web 3 technology.

On Web3, currently being built, websites and apps will be able to process information in a smart human-like way through technologies like Artificial Intelligence (AI), Machine Learning (ML), Big Data, Decentralized Ledger Technology (DLT), Blockchain and more. A common requirement for a Web 3 application is the ability to digest large-scale information and turn it into factual knowledge and useful executions for users. It is vital for a Web 3 application to be built on DLT. Using a Blockchain or Directed Acyclic Graph (DAG) allows it to create a decentralized ledger that requires no centralized intermediary to function, and therefore no single point of failure. Blockchain, due to their ability to globally facilitate the decentralized transfer of data and value in a fully trustless, transparent and immutable manner, makes it ideal for Web 3 that must be able to protect the privacy of information and resist attempts at censorship or sabotage by third-parties. Right now, Web 3 is a new idea that is not yet clearly defined and it could take 5-10 years to materialize.

## Metaverse

Metaverse, next big thing for the tech space, revolves around the concept of Virtual Reality (VR). Metaverse allows users to interact, operate, and earn in a completely new pattern. It is the future of the Internet as it promises to open a new era of technological innovation. Meta means "beyond" and verse refers to the "universe." In simple words, Metaverse refers to an immersive and persistent three-dimensional virtual realm, shared with many users, that spans various digital platforms and merges with the physical world, where people can shop, communicate, work, play and hang out together in 3D spaces in real time. Metaverse is a combination of Augmented Reality, Virtual Reality, and Blockchain Technology. More than just a virtual space, it incorporates various technical elements within it which are yet to be disclosed.

Metaverse utilizes Blockchain Technology to create its token economy based on cryptocurrency, only currency accepted in Metaverse today. However, in future the metaverse may accept fiat currency as well. To enter Metaverse, one must have a digital character to represent him/her. One can be a fictional person in the traditional form (static avatar), or an immersive avatar that can talk and move. Platforms like Decentraland, Axie Infinity, SecondLife are the examples highlighting the integration of blockchain technology and Metaverse.

In recent years, wide application of metaverse is seen in activities such as art exhibitions, product launches, and even weddings. However, Metaverse has the potential to be a "enterprise metaverse" that unlocks tremendous opportunity, beyond simply serving as a virtual place where people interact. So, in coming years, Metaverse is likely to garner attention from big as well as small firms and is likely to penetrate further across the globe. Some of the major businesses preparing for the metaverse include Nike, Adidas, and Vans. Further, extensive potentials of metaverse lie within the industrial sector that serve as the backbone of our economies. In the next few years, Industrial Operational Technology (OT) systems will begin merging with Metaverse for monitoring and analysis and direct control of operations. Then, Industrial and enterprise metaverses will invariably interact.

However, Metaverse with all its enormous capabilities cannot thrive without a powerful and omnipresent connectivity architecture. Hence, the network will be the decisive enabler of the opportunities we expect Metaverse to deliver. The real change will come with the deployment of 5G-Advanced from 2025 when Extended Reality (XR) is truly unleashed.

**Ashokrao Mane Polytechnic, Vathar (AMPV)** is one of the renowned Institutes of Excellence for Diploma programs in Western Maharashtra and has a prestigious status in the engineering and technology fields. Every year, hundreds of aspiring students compete fiercely to secure a place in this premier institution.

So, the success story of AMPV is not just the story of its journey from its humble beginning in June, 2008 but it is also the story of its toppers, exploring their journeys of perseverance, dedication, and triumph against all odds as they belong to the rural and agricultural background of the society. AMPV is the brainchild of the visionary Late Shri. Ashokrao Mane. Now entering into 16th year since its inception, it has offered a new vista of acquiring skills by establishing a new age institute mainly for rural area students to impart them high quality education. The institute started its academic journey with just 24 members team; presently 150+ employees are working in it. Since its inception, over 4000 students have completed their diploma programs of which more than 2500 have completed their degree in various disciplines. In 2014, AMPV received '**Best Engineering College in Maharashtra**' Award by ABP Maza. In 2019, it received **National Excellence Award by Indian Society for Technical Education.** In 2023, **State level Vidyasevak Award** was given to it by **Anna Bhau Sathe Prathisthan, Mumbai.** AMPV is determined to achieve academic excellence and professional growth under the leadership of it's Principal, who believes that all great accomplishments are the outcomes of dreams, determination, dedication and direction. Each and every member of institute is committed and striving very hard to attain the vision of the institute which is "achieve excellence in quality technical education to create competent technocrats with ethical and social responsibilities for the betterment of the society." Majority of its programs are accredited by National Board of Accreditation (NBA), New Delhi. It is approved by AICTE and DTE as well as lifetime member of Indian Society for Technical Education (ISTE). The institute has several MoUs to its credit and has setup several Centres of Excellence to expose its students to latest breakthroughs in technology.

AMPV's Training and Placement (T&P) Unit has the primary aim of helping students to find a job after completion of program. Since 2008, 88+ corporate companies and MNCs' visited the campus and recruited 2260+ students through personal interviews. The top recruiters include Infosys, Tata Motors, Suzlon, ThyssenKrupp and many more. The highest package that is offered at AMPV in 2023 is 4.15 Lakh Per Annum by KPIT Technologies, Pune. Few lucky and interested ones got the chance to get hired for international offers also. T & P Cell focuses on round the year activities like career counselling, interview preparation and talks to expose students to the multitude scenario of available opportunities. It has also arranged various soft skill trainings like Rubicon Skill Development Program and Barclays-NASSCOM Skill Training Program from which nearly 2500 students got benefited till date. Recently the E&T dept. arranged the industrial visit for the students to Indian Space Research Organisation (ISRO), Bengaluru, to understand current aerospace scenarios, latest most demanding technologies which they can explore to enhance their professional life.Perfect destination for quality technical education, NBA accredited Programmes, best academic results, well established labs, benefits like scholarships, top class infrastructural facilities and commitment to foster student's growth - has made this polytechnic a major learning campus in this region. Alumni of this college occupied very senior positions of leadership in various industries. Aspiring engineers from this region always prefer Ashokrao Mane Polytechnic, Vathar, Kolhapur as their first choice.



## Promoting Sustainable Practices across Industries

In recent years, the integration of Blockchain technology into various industries has sparked a revolution, not only in redefining operational processes but also in bolstering sustainability initiatives. Blockchain has evolved beyond finance and established itself as a catalyst for promoting transparency, efficiency, and sustainable practices across multiple sectors. One of the most profound impacts of Blockchain lies in its ability to reshape supply chain management. Industries such as agriculture, fashion, and electronics have embraced Blockchain to enhance transparency and traceability. Through this technology, each stage of a product's journey—from sourcing raw materials to manufacturing and distribution—can be meticulously recorded on an immutable ledger. This transparency ensures ethical sourcing, reduces counterfeit products, and fosters consumer trust by providing comprehensive information about a product's origins and environmental impact. Further, Blockchain's applications extend into carbon emissions trading, a crucial aspect of sustainability. Tokenizing carbon credits on a Blockchain platform creates a transparent marketplace for trading these credits, incentivizing businesses to invest in carbon reduction strategies. This approach encourages environmental responsibility by providing a viable economic incentive for reducing carbon footprints. In the realm of environmental conservation, Blockchain's decentralized ledger system plays a pivotal role in data management and verification. It securely stores and shares data collected from various IoT devices, facilitating real-time monitoring of environmental factors and wildlife conservation efforts. This verifiable data ensures the accuracy and integrity of information critical for managing natural resources and preserving ecosystems.

Despite its potential, challenges persist in the widespread adoption of Blockchain technology. Issues such as scalability, energy consumption, regulatory frameworks, and interoperability with existing systems need to be addressed for seamless integration. Nevertheless, the promise and potential of Blockchain in fostering sustainability across industries are undeniable. Collaborative efforts, technological advancements, and regulatory support are essential in overcoming challenges and maximizing the benefits of Blockchain Technology. The integration of Blockchain technology not only revolutionizes operational processes but also paves the way for a more transparent, efficient, and sustainable future for industries worldwide.

**Prashant Hire**
Team Lead, PLC Control Engg., Kneo Automation Pvt Ltd, Pune


I am Mudassir Mandviwala and I graduated in 2019 from Vidyalankar Polytechnic, Mumbai. My journey from a student to the founder of The Crazy Entrepreneur (TCE) has been an extraordinary odyssey marked with innovation, quality education and unwavering support. While studying in Vidyalankar Polytechnic I secured the prestigious 'First Rank' in the Computer Engineering Diploma. My institute's commitment to academic excellence, coupled with the guidance of esteemed professors provided me with a solid foundation beyond the classroom. During the Smart India Hackathon 2019, my team crafted an AI Chatbot for Dalmia Cement, earning us a special prize which not only showcased our skills but also my institute's commitment to pushing boundaries and encouraging groundbreaking projects.

Transitioning from my academic journey, the inception of TCE marked a new chapter in my entrepreneurial endeavours. TCE, a global force with a presence in the United States, United Kingdom, Dubai, Hong Kong and India, emerged as a disruptor in influencer marketing. Collaborating with top social media platforms, including a partnership with YouTube, India for YouTube Shorts, TCE has harnessed the strengths of each platform to stay ahead of trends and algorithms. TCE is not just an agency; it is a movement that redefines influence. Our network of over 10 million influencers worldwide is a testament to the agency's reach and impact. The focus goes beyond creating campaigns; it is about crafting experiences that deliver unbeatable Return on Investment for brands. Collaborations with industry titans such as Google, Instagram, Samsung, YouTube, Dubai Tourism, and others underscore TCE's ability to drive results and make waves in the competitive marketing world. An invitation to the Google, Indonesia office for partnership discussions further recognizes TCE's global impact and dedication to staying on the cutting edge of industry trends.

As my entrepreneurial journey unfolds, TCE remains committed to rewriting the influencer marketing playbook, leaving an indelible mark on the global digital landscape. TCE's growth beyond geographical boundaries, not only signifies its global expansion but also reflects adaptability to diverse work environments. Besides, our commitment to make sure that our clients receive tailored and effective solutions help us in to staying at the forefront of global trends. In the ever-evolving landscape of work, TCE embraces the hybrid model, seamlessly integrating the dynamics of work from home and work from the office, leveraging technology to maintain collaboration and efficiency. This hybrid approach not only reflects our commitment to employee well-being but also positions TCE as a forward-thinking organization capable of meeting the evolving needs of the modern workplace. As we navigate the complexities of the digital marketing landscape, TCE remains rooted in the principles like innovative thinking, and collaborative learning has become the cornerstone of TCE's approach.

Many integral members of my core team like Pranav Makwana, Arsalan Shaikh, and Raghavendra Lola share a common educational background as they have also graduated from Vidyalankar Polytechnic. This connection fosters a unique camaraderie and understanding, contributing to the synergy that drives TCE's success. Their diverse skills and experiences bring a wealth of perspectives to the table, creating a dynamic and innovative work environment.

In addition to TCE, I founded MetaCasper, a dynamic crypto agency, showcasing a commitment to staying at the forefront of digital trends and offering comprehensive solutions to clients. My journey from an engineering diploma holder to TCE showcases a seamless blend of MSBTE's high quality curriculum, a relentless pursuit of passion, adaptability to global markets, and a strong team forged from shared roots. With a global reach and local expertise, TCE continues to redefine influence, empower businesses, and inspire creators worldwide in the digital marketing landscape.

**Mudassir Mandviwala**
Founder, The Crazy Entrepreneur (TCE)

**Cont. from Page No. 01**

Engineering, Academic and Research Institutes, Government Machinery and Industrial Establishments of Maharashtra in order to develop and extend the use of Drone Technology, Government resolute to open 6 Regional level and 12 District level Drone Centers collectively called as 'Network of Drone Centers'. The headquarters of these Drone Centers will be established at IIT Mumbai. The main center in Mumbai will have a runway strip, indoor drone testing facility, prototype manufacturing facility, charging/fuelling station, hanger and a control tower. The number of these Drone Centres will be changed as per requirement. A 5 yr implementation plan has been prepared which would be monitored by a committee nominated by the Government under the Chairmanship of the Chief Secretary, MS, along with other members comprising of **Principal Secretaries of various Departments, Experts from IIT Mumbai and Director, DTE, Mumbai, as Member Secretary.** As per the GR, the said committee will address the financial matters, the challenges to be faced while implementation of Drone Mission like to discuss and take decisions on state level problems and will review the implementation of this project from time to time. The committee will also identify Regional Level & District Level Drone Centers and will guide concerned manpower with this project. The GR said the use of drones would be done under the Centre's Remotely Piloted Aircraft (RCA) operation guidelines released by the Directorate General of Civil Aviation (DGCA). “Based on the requirement, the state would engage the use of nano, micro, small, medium and large drones,” the notification said. According to the project plan, for the implementation of the Drone Mission a total of Rs. 23863.43 lakhs estimated expenditure is approved for 5 years.

## *Feedback....*

At the outset, I must appreciate the efforts and commitment extended by the MSBTE team for publishing an informative newsletter with different flavors of contents which an academic organization is expected to provide to its stakeholders. The theme -based approach of the Newsletter enhances its liveliness to a great extent. Every theme is topical and trending. Industry Speak, Faculty Speak and Student Speak allow the readers to access the contents from different perspectives from various user groups on same theme. Success stories of Entrepreneurs and Polytechnics helps in motivating the Students and Institutions to perform better. Techno buzz provides an information on forth coming trends. I wish all of you a happy new year. Thank you!

**Prof. Sandeep V. Paranjape**
HoD, Comp. Engg., G P, Khamgaon

# Leadership Workshop for MSBTE Officials...

Maharashtra State Board Technical Education (MSBTE) had organized a three days Leadership Training/Workshop for its Officers in collaboration with L&T's Skill Trainers Academy (STA) from 27th to 29th October 2023 at L&T's Leadership Development Academy (LDA), Lonavala, Pune.

In all, 31 officers from MSBTE, Mumbai and its Regional Offices in Mumbai, Pune, Ch. Sambhajinagar and Nagpur participated in this training. During this program, the inaugural session was addressed by Dr. Pramod Naik, Director, MSBTE, Shri. K. Ramakrishnan, Chief Executive - Skill Development and Mission, L&T and Shri. Ashok Shahane, Dy Chief Executive, - Skill Development and Mission, L&T. Next day, sessions were conducted on topics such as, Lead a team to Success, Leadership Effectiveness, Team Building, Effective Communication & Motivation, Leading the Change, etc. In the evening, a get-together was organised, where amid an informal environment, everybody enjoyed music and cultural activities. Last day session was focussed on Digitalisation wherein Digital Skills covering topics like Concepts of AI, Basics of Chat GPT and Cyber Security were imparted.

The workshop was very well organised by L&T's Leadership Development Academy in all respects. The officers who attended the program felt that it was a very refreshing experience having both technical and soft skills enhancement.


## Feedback....

I wish to express my sincere appreciation for the recent issue of the MSBTE Newsletter, which focused on 'Artificial Intelligence and its Impact'. The chosen theme aligns well with current trends and effectively highlights the technological advancements that signify progress. In particular, the articles by professors and industry experts provide insightful perspectives, showcasing how AI is destined to become an inseparable part of our technical and daily lives. Also the articles thoughtfully explored diverse use cases of AI, providing valuable insights into its profound impact on our daily lives. I suggest introducing a section that addresses common myths related to the featured technologies which not only clarifies doubts but also promotes a more accurate understanding among readers.

I eagerly anticipate the next issue, which will delve into 'Blockchain Technology'. The Newsletter showcases emerging fields of knowledge, playing a pivotal role in kindling the interests of students and promoting a nuanced understanding of cutting-edge technologies. I look forward to MSBTE's continued efforts in enlightening us on evolving topics and deepening our understanding of emerging technologies.

**Smt. Suvidha Milind Patil**
Lecturer, Electronics Engg.,G P, Pen

Last issue of MSBTE Newsletter, has highlighted the current as well as its potential applications of Artificial Intelligence in Industry and Customer Service, and its societal implications. I laud MSBTE for restarting this initiative and making an effort to highlight new trends in the field of technology through their Newsletter. The Newsletter will undoubtedly act as a guide for faculty as they organize activities for students', colleges', and personal growth. I express my wish that maximum number of faculties should contribute to the MSBTE newsletter.

**Dr. A. S. Kondekar,** Principal, Y B Patil Polytechnic, Akurdi, Pune

In the last issue, the articles centered around Artificial Intelligence offered its readers an in-depth analysis and insightful information. The diverse perspectives and thorough analysis significantly enhance readers' knowledge on the subject. 'Industry Speaks' imparted vital knowledge about AI to aspiring engineers, effectively communicating complex concepts in an understandable manner. 'Student Speak' acts as a motivating influence for young minds, encouraging them to explore, research, and present new ideas. 'Faculty Speaks' encourage students gain an academic perspective on Artificial Intelligence, broadening their understanding.

**Shri. Mangesh Hari Patil**
Lecturer, V.E.S. Polytechnic, Chembur, Mumbai



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