

TITE

TITE

Templecity Institute of Technology and Engineering

ADITYA

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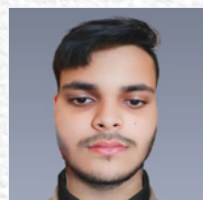
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MESSAGE FROM CHAIRMAN

Dr. Avaya Kumar Nayak
OAS (SS) Retd.,
Chairman, TITE

Shaping the Future of Engineering Education

As the Chairman of the governing body of this esteemed institution, I am delighted to address the readers of our technical magazine “Aditya”, a testament to the academic excellence and innovative spirit of our students and faculty.

Our college has a rich legacy of producing talented engineers who have made a significant impact in their chosen fields. As we move forward, we are committed to shaping the future of engineering education by providing a holistic learning experience that combines academic rigor with industry relevance.

Our focus areas include emerging technologies such as artificial intelligence, data science, and cybersecurity, as well as sustainable energy and environmental engineering. We invest in state-of-the-art infrastructure, including advanced laboratories, research centers, and incubation facilities, to provide our students with hands-on learning experiences.

Our faculty, comprising distinguished academicians and industry experts, are dedicated to mentoring and guiding our students to achieve their full potential. I am confident that our students will continue to excel in various fields, making a positive impact on society and contributing to the nation's growth and development.

I invite our students, faculty, and industry partners to join us in our pursuit of excellence, as we shape the future of engineering education.



MESSAGE FROM DEAN OF ACADEMICS

DR. ANADI CHARAN SAHOO,
MSc. PH.D. (Computational Fluid Dynamics)
Dean (Academics), TITE



Academic Excellence and Innovation: The Hallmark of Our Institution

As the Dean of Academics, I am pleased to address the readers of our technical magazine “Aditya”, a platform showcasing academic achievements and innovative pursuits of our students and faculty.

Our institution is committed to providing a top-notch education that prepares students to excel in an increasingly complex and interconnected world. Our academic programs are designed to foster critical thinking, creativity, and problem-solving skills, with a strong emphasis on industry relevance and social responsibility.

Our faculty, comprising distinguished academicians and industry experts, are dedicated to mentoring and guiding our students to achieve academic excellence. We are proud of our state-of-the-art infrastructure, including advanced laboratories, research centers, and incubation facilities, which provide a platform for students to explore, innovate, and experiment. Our focus areas include emerging technologies such as Artificial Intelligence, IoT Systems, Data Science, Rapid Manufacturing, and Cybersecurity, as well as Sustainable Energy and Environmental Engineering.

I am confident that our students will continue to excel in various fields, making a positive impact on society and contributing to the nation's growth and development.



MESSAGE FROM PRINCIPAL

Prof. (Dr.) Ajit Kumar Khatua,
M. Tech, PhD (Mech. Engg.)
Principal, TITE

Dear Readers,

As the Principal of Templecity Institute of Technology & Engineering, I'm thrilled to share the remarkable strides our institution has made in shaping the future of engineering. In a rapidly evolving technological landscape, our commitment to excellence has never been stronger.

At the heart of our success lies a curriculum that seamlessly blends theoretical knowledge with practical application. Our students are not merely passive learners; they are active participants in cutting-edge research projects, industry collaborations, and real-world problem-solving. This hands-on approach equips them with the skills and confidence to tackle the challenges of tomorrow.

Furthermore, our esteemed faculty members are not only esteemed scholars but also visionaries who inspire their students to push the boundaries of innovation. Through their guidance, our students are developing ground-breaking solutions in fields such as

renewable energy, smart city infrastructure, and advanced manufacturing.

Moreover, our influence extends far beyond the classroom walls. We take great pride in our active engagement with the local community, offering our technical expertise and resources to address pressing societal needs. By fostering collaborative partnerships, we're not only cultivating the next generation of engineering leaders but also driving positive change in the world around us.

As we look to the future, we remain steadfast in our mission to empower our students and contribute to the advancement of the engineering profession. With unwavering dedication and a commitment to excellence, TempleCity Institute of Technology & Engineering is poised to lead the way in shaping a better tomorrow.

WELCOME TO TITE

(TEMPLECITY INSTITUTE
OF TECHNOLOGY AND
ENGINEERING)

About Us

The Templecity Institute of Technology and Engineering (TITE) is a progressive institution, deeply committed to empowering future engineers and management professionals with innovative skills and industry acumen. With an emphasis on the holistic development of students, TITE combines academic rigor with real-world applications to nurture both the professional expertise and essential life skills of the students simultaneously.

The various departments at TITE offer a comprehensive range of disciplines, each designed to equip students with the technical expertise and innovative thinking needed to excel in their chosen fields. By integrating cutting-edge technology, hands-on learning, and industry-focussed curricula, into the teaching-learning

process, these departments enable both academic and professional growth. Supported by a distinguished faculty, TITE fosters innovation and values-driven learning, aiming to shape graduates who are proficient and impactful contributors to society.



Vision

To pioneer a new movement for ushering in world-class higher education in India. To be a leader in engineering and management education, fostering a transformative learning environment that nurtures innovation, sustainability, and global competencies, while consistently evolving as per industry needs to prepare students for impactful careers and leadership.

Mission

Our mission is to establish a rigorous academic foundation complemented by research, practical skills, and ethical leadership, and use knowledge as a tool for human empowerment. We are deeply committed to empowering students to excel in a rapidly changing world through continuous innovation, fostering collaborations with industry and academia, and cultivating a culture of lifelong learning.



DEPARTMENTS at TITE: Insights from our HODs



Department of Mechanical Engineering:

As one of the oldest and most prestigious departments at our college, the Dept. of Mechanical Engineering stands as a beacon of excellence. Our faculty with a rich blend of academic and industry experience, is dedicated to imparting cutting-edge knowledge and practical insights that shape future-ready engineers.

With a strong foundation in academic excellence, we have consistently nurtured dynamic and proactive graduates who excel in innovation and problem-solving skills. Our four-year degree program in Mechanical Engineering is updated from time to time to align with the evolving needs of the industry.

Equipped with state-of-the-art facilities, our students are empowered to hone their skills across various domains of mechanical engineering.

We take pride in producing engineers who are not only academically accomplished but also ready to make their mark in the professional world with confidence and competence.

Prof. Pritiranjana Bhol,
**HOD, Dept. of Mechanical
Engineering**



Department of Electrical Engineering:

Welcome to the Department of Electrical Engineering at TITE College, where we take pride in our legacy of excellence. With an intake capacity of 60 students, a consistent record of 100% academic results, and over 95% successful placements, we are dedicated to shaping future leaders. Our degree program not only equips students with a strong technical foundation but also empowers them with the skills needed to thrive in a competitive industry.



The department has highly qualified and experienced faculty members, supported by dedicated non-teaching staff, who are committed to delivering a rich learning experience. Over the past 17 years, we have made significant contributions to industrial development at both national and international levels. Our robust industry-academia collaborations, regular study tours, and interactive learning methods further prepare our students for real-world challenges. We also support our





students' aspirations for global education by providing Letters of Recommendation (LORs) for higher studies in leading institutions in the USA and other countries.

In line with our commitment to sustainable development, the Department launched an internal initiative named TITE PRIME STEPS TOWARDS SUSTAINABLE AMRIT KAAL inspired by the vision of renewable energy under PM Surya Ghar Yojana. Since 2020, we have overcome numerous challenges in building solar systems for mass production. What began as a small-scale

project with an 800W output has grown into a 5KW on-grid solar power system, making a significant impact on campus by providing uninterrupted power for CCTV systems, outdoor lighting, and other departmental needs. Our journey not only demonstrates our commitment to sustainability but also inspires our students to contribute to India's energy independence.

As we continue to aim higher and raise the bar of excellence, our department is set to expand these efforts to benefit the entire TITE community. I am confident that our



students, with their skills and dedication, will carry forward the department's tradition of excellence and professionalism.

I wish them all the best in their future endeavors.

Prof. Kanan Kumar Das,
HOD, Dept. of Electrical
Engineering

Department of Electronics and Communication Engineering

“Embracing Innovation: The Future of Electronics and Communication Engineering”

As the Head of the Department of Electronics and Communication Engineering, I am delighted to share the exciting progress and innovations that are shaping our field. The rapid pace of technological progress has led to a paradigm shift in the way we approach electronics and communication engineering. Our department has been at

the forefront of this revolution, fostering a culture of innovation and excellence among our students and faculty.

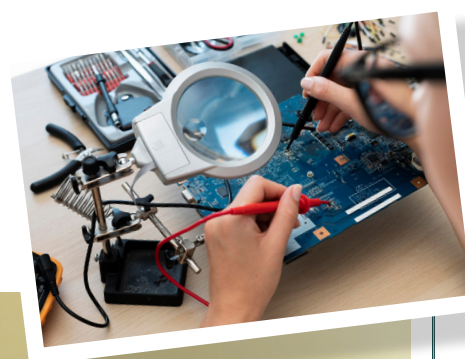
In recent years, we have witnessed significant breakthroughs in areas such as Artificial Intelligence, the Internet of Things (IoT), and 5G technology. These advancements have opened up new avenues for research and development, enabling us to tackle complex problems and create innovative solutions. Our department is actively exploring these cutting-edge fields, with faculty members contributing to international research journals and conferences. Our students are equally engaged, working on projects like AI-powered robotics, IoT-based smart homes, and 5G-enabled communication networks. These hands-on experiences not only enhance their technical skills but also instill in them a sense of entrepreneurship and

innovation.

As we move forward, we are committed to providing our students with a comprehensive education that prepares them to tackle the challenges of the future. With a strong foundation in both academic excellence and practical application, we are confident that our department will continue to play a vital role in shaping the future of electronics and communication engineering.

We welcome you to be a part of this journey of innovation and discovery.

Prof. Satyaprakash Rout,
HOD, Dept. of Electronics & Communication Engineering



TITE

Department of Civil Engineering

Welcome to the Department of Civil Engineering at TITE. As the Head of this Department, I am thrilled to highlight the significant progress we have

the complex challenges of the modern world.

One such area of focus is the integration of BIM (Building Information Modelling) and AI (Artificial Intelligence) in infrastructure planning and

These initiatives not only address pressing environmental concerns but also create new opportunities for our graduates to make a meaningful impact on their communities.

Prof. Baroda Prasanna Sahoo, HOD, Dept. of Civil Engineering

achieved in advancing civil engineering education. TITE's long-standing reputation for excellence in both education and research continues to fuel our efforts in pushing the boundaries of innovation within this ever-evolving field.

At the heart of our success lies the dedication and talent of our esteemed faculty, who are not only renowned academics but also visionary practitioners. They have seamlessly integrated cutting-edge technologies and sustainable design principles into our curriculum, ensuring that our students are equipped with the knowledge and skills to tackle

construction. Our researchers have developed groundbreaking algorithms that optimize project management, reduce construction waste, and enhance the overall efficiency of building processes. This has led to significant cost savings and improved sustainability for our industry partners.

Furthermore, we have placed a strong emphasis on renewable energy and green infrastructure, with our students and faculty collaborating on projects that explore the use of solar panels, geothermal systems, and innovative materials in civil engineering applications.



Department of Computer Science Engineering

As the Head of the Computer Science Engineering Department at TITE, I am thrilled to share with you the exciting developments and initiatives that are shaping the future of technology education at our institution. Our department is committed to providing students with a comprehensive education aligned with the fast-evolving demands of the tech industry. By combining rigorous academic theory with practical experience we are preparing our students to become leaders in an increasingly digital world.

In recent years, we have witnessed a significant shift towards artificial intelligence, machine learning, and data analytics. In response, we have

revamped our curriculum to incorporate these emerging technologies, ensuring our students are well-versed in the latest tools and techniques. Our state-of-the-art facilities, including cutting-edge laboratories and incubation centers, provide an ideal environment for students to explore and innovate.

Our faculty members are actively engaged in research and development, collaborating with industry partners to address real-world problems. This synergy between academia and industry provides students with opportunities for project-based learning, internships, and the ability to work on solutions that have tangible societal impacts. We are proud of our alumni, who have gone on to secure prestigious jobs and pursue higher education at top institutions worldwide.



As we move forward, we are committed to fostering a culture of innovation, entrepreneurship, and social responsibility. We believe that technology should be harnessed to benefit society, and our students are encouraged to develop solutions that address pressing global challenges.

At TITE, our goal is to continually evolve with the technology landscape, ensuring our students are well-prepared for the challenges and opportunities of the future.

**Prof. Namita Das, HOD,
Dept. of Computer Science
Engineering**



Department of Basic Science and Humanities

I feel delighted to welcome you to the Department of Basic Science and Humanities at our esteemed Engineering college. As the Head of the Department, I am excited to share my perspectives on the critical role these disciplines play in shaping well-rounded and versatile engineering professionals.

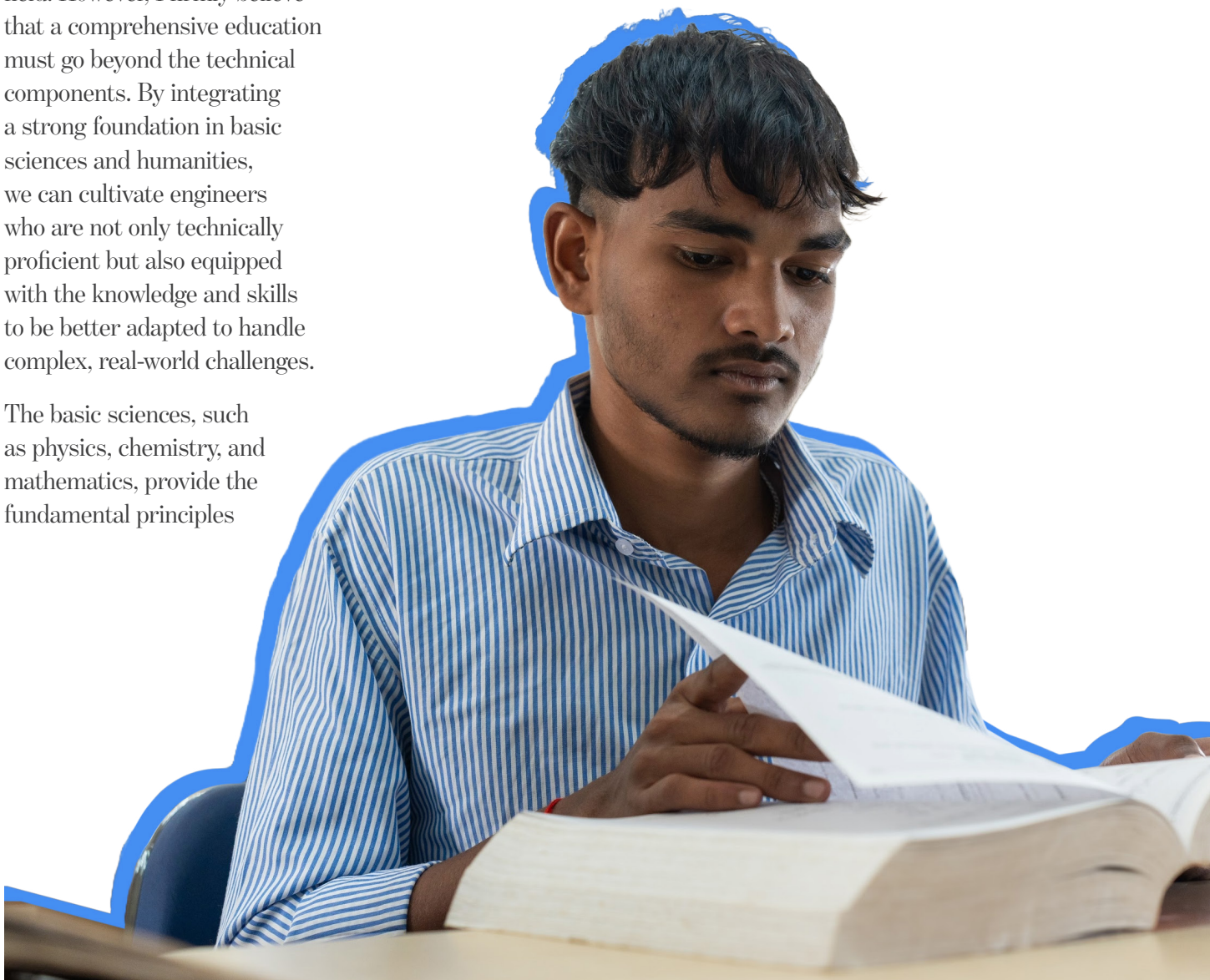
In the fast-paced, technology-driven world of engineering, it is easy to become solely focused on the technical aspects of this field. However, I firmly believe that a comprehensive education must go beyond the technical components. By integrating a strong foundation in basic sciences and humanities, we can cultivate engineers who are not only technically proficient but also equipped with the knowledge and skills to be better adapted to handle complex, real-world challenges.

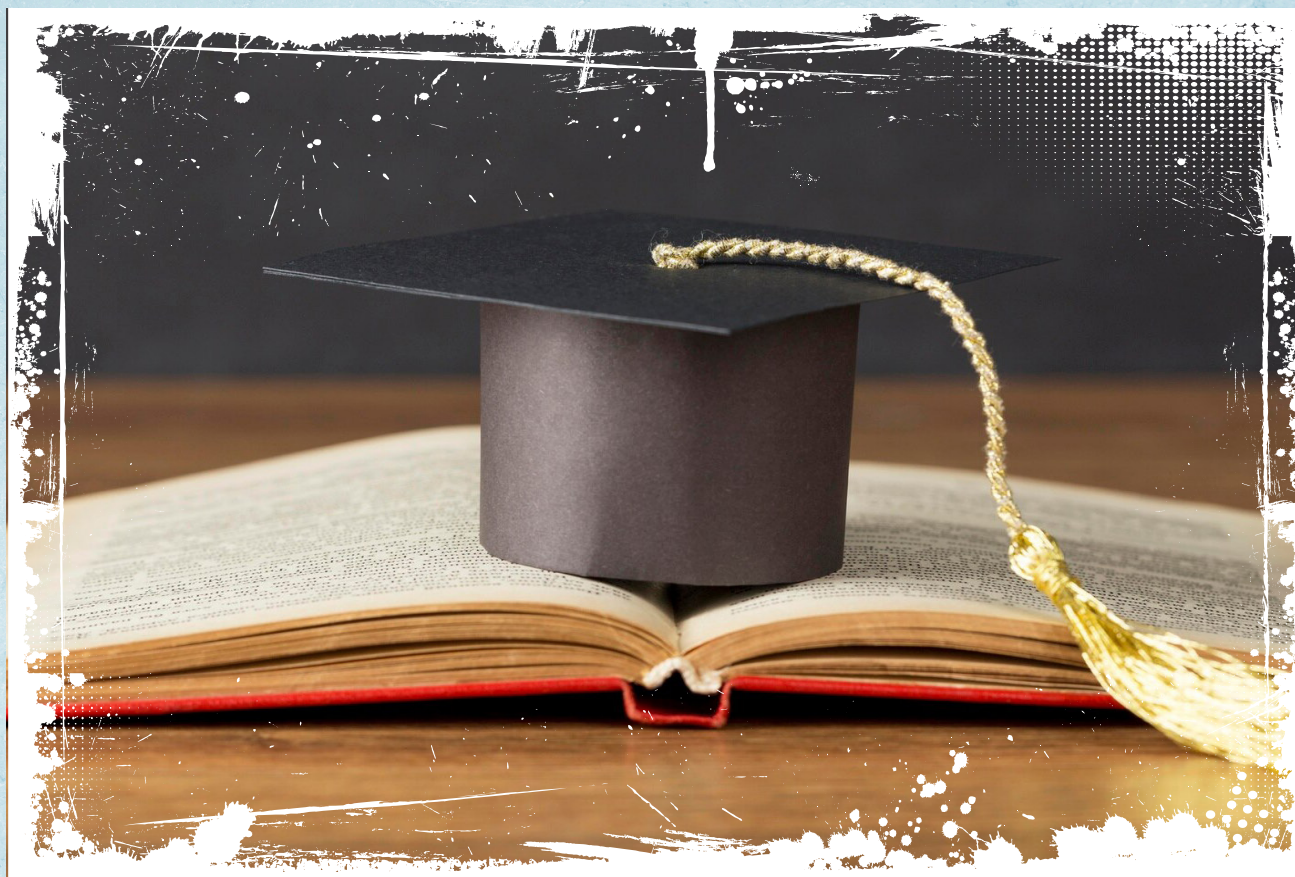
The basic sciences, such as physics, chemistry, and mathematics, provide the fundamental principles

that underpin the various engineering disciplines. A deep understanding of these core concepts enables our students to develop robust problem-solving skills, think analytically, and apply their knowledge to innovative solutions. Similarly, the humanities, including subjects like history, philosophy, and literature, broaden our students' perspectives, enhance their communication abilities, and foster a greater appreciation for the social and cultural contexts in which engineering solutions are implemented.

Furthermore, the intersection of basic sciences, humanities, and engineering is where true innovation often emerges. By encouraging our students to explore these interdisciplinary connections, we empower them to become creative, adaptable, and socially responsible engineers who can navigate the complexities of the modern world.

-HOD, Dept. of Basic Science and Humanities





Department of MBA

The MBA department of TITE is where the next generation of business leaders is shaped. In today's rapidly evolving landscape, where technology is redefining the way we work and innovate, the need for professionals who can seamlessly integrate business strategy and technological expertise has never been greater. As the Head of the MBA department, I am excited to share our vision for excellence in the field of management education. Our department is committed to equipping students with the skill set needed to smoothly navigate the journey from the classroom to the boardroom.

Our curriculum blends core

business disciplines with emerging technological trends, to empower our students to become strategic thinkers, problem-solvers, and innovative decision-makers. Our faculty comprises experienced industry professionals and renowned academics who are at the forefront of their respective fields. They bring a wealth of practical insights and research-driven approaches to the classroom, fostering an environment of intellectual curiosity and collaborative learning.

As the Head of the MBA Department, I feel privileged to be leading a program that is shaping the future of business education in our country. By empowering our students to harness the power of technology and translate it into

innovative business strategies, we are cultivating the next generation of visionary leaders who will drive progress and transform industries.

I invite you to explore our MBA program and join us in this journey of shaping future business leaders.

Prof. Ramakanta Sahoo,
HOD, Dept. of MBA



TITE

TITE TRACKER

– Campus Newsfeed

Independence Day celebration at TITE

Students and staff of TITE celebrated our nation's 78th Independence Day with great patriotism and fervor. The celebration began with the hoisting of the National Flag on the TITE campus, followed by the singing of the National Anthem in the presence of Chairman TITE, Dr. Avaya Kumar Nayak, Dean Academics, Dr. Anadi Charan Sahoo, and Principal Prof.(Dr.) Ajit Kumar Khatua. The event instilled a sense of pride and responsibility in the TITE community, inspiring us to contribute to the nation's growth and progress.



TITE and IG Drones sign landmark MOU

TITE has taken a significant step forward in embracing cutting-edge technology through the signing of a Memorandum of Understanding (MOU) on 28th August 2024, with IG Drones- India's leading enterprise drone platform. This collaboration has set the stage for a promising partnership focused on fostering mass adoption of digital innovation in the drone industry.

Key objectives of this MOU are:

- 1.1. Setting up a Centre of Excellence (COE) in Drone Technology at TITE, Khordha, for research and innovation.
- 1.2. Establishing the COE as a Technology Hub in Odisha for drone advancements.
- 1.3. Offering drone technology programs for students, youth, and professionals to equip them with vital future skills.
- 1.4. Undertaking consultancy and research projects with government, funding agencies, and industries.
- 1.5. Running awareness programs on drone applications.
- 1.6. Promoting startups and micro-entrepreneurs in the drone sector.
- 1.7. Exploring new projects as mutually agreed.

Understanding Digital Safety through Cyber Security Seminar at TITE

As part of its consistent efforts to prepare its community for the digital challenges of the future, TITE, in collaboration with the Young India Foundation, hosted a highly engaging seminar on “Cyber Security” on 24th Aug 2024.

ACP Anjana Tuddu (OPS)

and Prof. Kumar Bar Das delivered key insights into emerging cyber threats and data protection strategies. The seminar emphasized the growing importance of cyber security awareness in today’s digital age, particularly for students and professionals

navigating the increasingly interconnected world.

Attendees left with a deeper understanding of the critical measures required to safeguard personal and organizational data in a technology-driven landscape.



Promoting Sustainability in the TITE Campus

On August 21, 2024, TITE took a bold step toward environmental stewardship during a crucial discussion with Prof. Prafulla Kumar Dhal, National Patron of Igniting Mind, Hyderabad. The meeting, led by our leadership team, focused on launching several key initiatives to enhance the sustainability of our college campus.

Plans were laid out for tree plantation drives, rainwater harvesting, and transforming the campus into a vibrant green space. Additionally, discussions covered the integration of green-tech innovations, such as geo-tagging of plants to monitor growth, and the establishment of an incubation center dedicated to green technology.

These forward-thinking initiatives underscore TITE’s commitment to creating an eco-friendly campus while fostering environmental awareness and innovation for the future.



Digital Skilling by Coursera

TITE in collaboration with Unitech Engineers, India (the Coursera implementation partner for Odisha Skill Development Authority, Govt. of Odisha), organized a seminar on “Digital Skilling by Coursera” in our college campus on 3rd September 2024.

The seminar offered students and faculty an insight into Coursera’s wide range of digital skilling courses and their role in empowering individuals to enhance their expertise, adapt to industry shifts, and excel in their professional journeys. Participants were guided on how to leverage Coursera’s transformative learning platform, which provides access

to world-class content and specializations designed to meet the demands of modern industries.

The event was a resounding success, inspiring both faculty and students alike, to embrace digital skilling as a key to future success in the dynamic job market.

RESEARCH AND DEVELOPMENT AT TITE

Solar Dryer Project:

The Mechanical Engineering students at TITE have developed an innovative solar dryer that harnesses the power of the sun to dry fruits, vegetables, and crops for preservation. With an insulated box, a black absorption surface, and double-glazed glass, this eco-friendly dryer efficiently captures and utilizes solar energy. By leveraging the density differential, the dryer works like magic, offering a sustainable and cost-effective solution for food preservation.



Fiber Strength Testing Machine:

In the evolving landscape of new materials, composites and fiber-reinforced components are steadily replacing traditional metal parts. Recognizing the need for accurate and cost-effective strength testing, our students have developed an advanced Fiber Strength Testing Machine. This setup is designed to measure not only the strength of natural and synthetic fibers but also that of polymeric parts, springs, and fabrics.

Equipped with a strain gauge and load cell, the machine efficiently measures breaking



load and elongation. The use of a differential V-thread ensures minimal lead movement, providing highly accurate elongation readings. Being affordable, this innovative

machine offers a powerful solution to many complex research challenges in material strength analysis.

Solar Water Purifier:

In today's world, access to clean drinking water remains a pressing challenge, especially in many rural pockets and underserved regions. With rising waterborne diseases, affordable and sustainable solutions are more critical than ever. At TITE, our students have risen to this challenge and developed a revolutionary Solar Water Purifier that harnesses solar energy to provide clean and safe drinking water.

Utilizing Water Pasteurization, this innovative device effectively eliminates disease-causing pathogens without relying on electricity. Its low manufacturing and maintenance costs make it an affordable and sustainable solution for

the communities in need. This purifier effectively addresses water sanitation and health issues, offering a beacon of hope to areas where clean water is scarce. Through their ingenuity and dedication, our

students have created a life-saving solution that promotes a healthier and more equitable society, furthering TITE's commitment to impactful research and development.



Kaleid



Oscope





Marketing 3.0 – Values Driven Marketing

RASHMITA PRADHAN
MBA (Finance & HR)

Before we proceed, let us look ahead to take a look at the past and arrive at the present. Imagine you sit with me at an air-bound coffee shop at the beginning of the 22nd Century discussing how Marketing 8.0 is on the decline and how we need to look beyond – perhaps formulate a new version and redefine Marketing – Marketing 9.0! Farcical? Blasphemous to some?

Let us shift backward now – the advent of the 20th Century as a certain Mr. Ford proudly remarks “Any customer can have a car painted any color that he wants so long as it is

black.” Marketing 1.0 – the Product centric era. Here Marketing was evolving and confined to a very narrow definition – it was considered as mere selling, an art of persuasion. As the consumers evolved, so did the marketers. With the advent of Information Technology, marketing couldn’t survive solely on the product and selling concept. Let’s fast forward to the present age then, consumers are much better informed and can compare value offering of similar

products at their fingertips. Their needs are changing fast and today the product value is defined by the customer. This is the age of Marketing 2.0 – the customer centric era. It entails marketers identifying unfulfilled needs and wants and converting them into profitable opportunities. We are seeing a plethora of customized products to cater to specific needs. Standardization has passed. So for every standard Ford T of the past, you get a whole gamut of offerings each catering



to different segments from niche to mass. Customers even modify the products to tailor to their needs (Dell's Mass Customization). Consumers today are spoilt for choices.

A quick comparison between Marketing 1.0, 2.0 and now 3.0.

	Marketing 1.0 Product-centric	Marketing 2.0 Consumer-centric	Marketing 3.0 Value-centric
Objective	Sell products to the masses	Satisfy customers & brand loyalty	Meet emotional and rational needs of consumers
Enabling Forces	Industrial Revolution	Information technology	Connectedness of consumers
How marketers see the market	Mass market	Smarter consumers & mass market	People instead of segments
Key Marketing concept	Product driven market	Differentiation	Value of product to consumers emotions
Value Propositions	Functional	Functional & emotional	Functional, emotional & rational
Interaction with consumers	Mass communication	Micro segmentation	Consumers collaborate with each other
Power of branding	Marketers/ companies	Marketers/ consumers	Consumers



Consumers are no longer solely restricted to consumption but are getting equally involved in collaborative value creation and this age of participation essentially defines Marketing 3.0. We are witnessing a growing trend towards participative customers. Companies now collaborate with customers as marketing managers try to understand their minds and capture market insights. In some cases, we

can see customers designing and making products for themselves. Take the example of Starbucks, which has Hear Music Media Bars, a service that allows customers to create their own music CDs via tablet PCs. Back home, take the example of Tanishq - the jewellery arm of the Tata Group, which recently launched a promotion drive under the name 'My Expression', which invites consumers into a co-creation

activity. Customers were invited to submit their own design ideas for a new line of jewellery and got to collaborate with top designers at Tanishq to come up with Mia - a new jewellery line for working women.

We are witnessing the rise of the new 'Creative Class'. According to The Economist, not only is the 'customer the king': he is also the market research head, R&D chief, and product-development manager. Customers are expressing themselves in new ways and finding avenues like digital media to have their independent voices heard. They are no longer affected by one-way or mass communication. The traditional objective of Positioning has always been to capture the consumer's minds as argued by Al Ries.

However, today Emotional marketing has developed and it's not just the customer's mind that is targeted. Brands look at innovative ways to connect with customers at a subconscious level. Experiential Marketing has grown. Some Marketers were able to leverage this to their advantage even before the concept took off. Take the example of Starbucks and its projection as 'A Third place to drink Coffee' or Apple's Products which have always been more than just new Tech products for their customers. In essence, Kotler defines Marketing 3.0 as values-driven marketing - covering the customers' minds, hearts, and spirits.



So what implications does it have for the new-age Marketers prepared to embrace Marketing 3.0?

As a company tries to capture the mind, heart, and spirit of the customer; it has to align its operations keeping in mind the mission, vision, and values of the company – which act as enablers. The company's mission is represented by an inverted doughnut – as the core objective of the company remains the same while the periphery is flexible and accommodative to change. The Company's vision is guided towards the future (as represented by the compass).

The values of the company act as the guiding preamble that drives it to deliver the best offerings and thus differentiate itself from others.

Profitability and Returnability are driven by a long-term plan for sustainability. Companies are being driven by not just creating economic value but also promoting social progress and benefits for all. The Triple Bottom Line Concept is being adopted by several firms bringing together – economic value, environmental health, and social progress.

But what were the key drivers to this shift towards Marketing 3.0?

For one, the rise of technology particularly the internet and

social marketing paved the way for the age of participation and collaborative marketing. People trust each other more than marketers. Second, more and more collaboration tools meant more trust between customers. According to a survey by Nielson, 90% of people acted on recommendations from known people and consumer opinions posted online while traditional advertisements and text ads on mobile phones had the least credence.

The percentage of weekly social media users is at 73% of the online population. With this growing influence, customers are becoming the true marketers of a product in every sense. Needless to say, all this requires companies to strike the right chords with the customers by connecting with them at an

emotive level; collaborating with them and making them feel responsible for the product. A well-developed CSR program can go a long way in connecting with customers who are increasingly becoming cognizant of their environment and feel an urgency to do their bit. Take the example of Campbell's Soup which recently changed the colour of its packaging to Pink during Breast Cancer Awareness Week. Not only did it serve the purpose of spreading awareness well but the benefits could also be seen in the increased demand for the product.

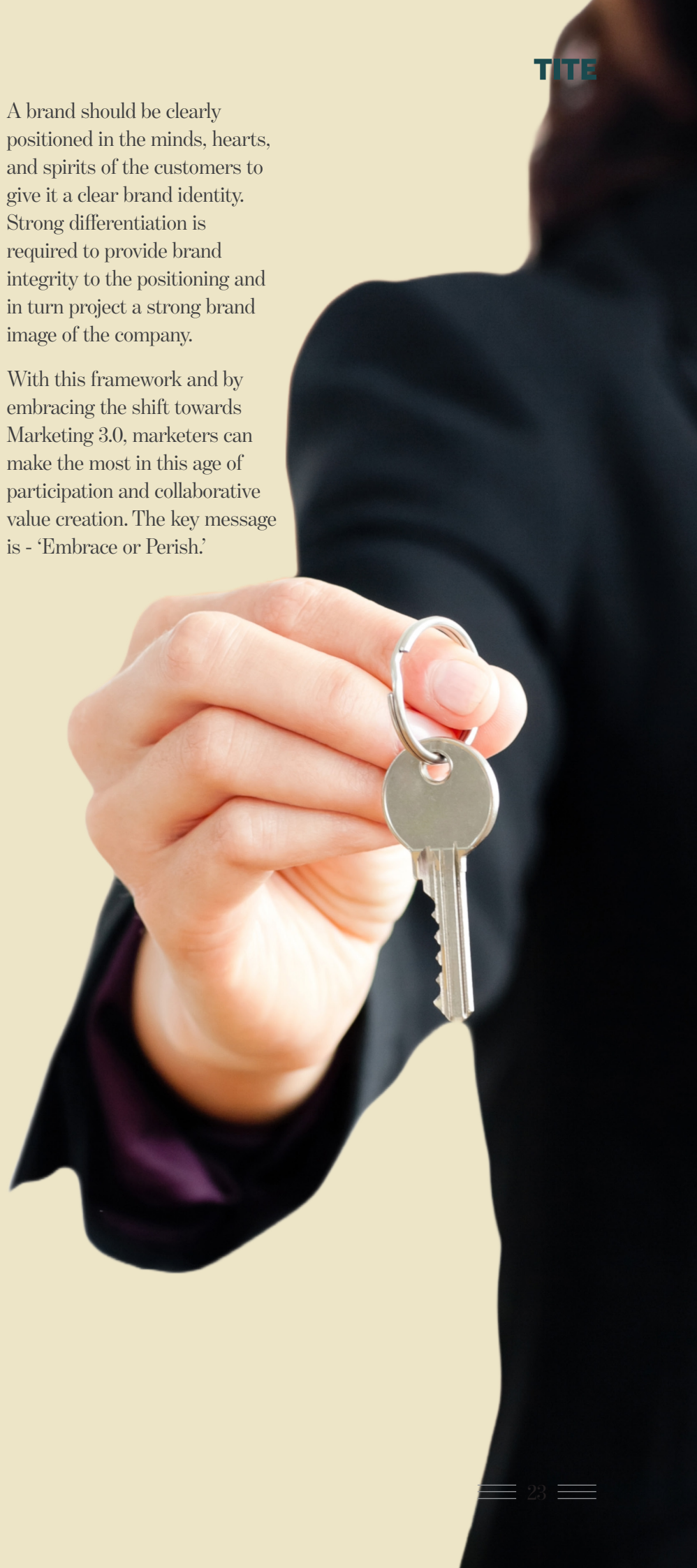
What approach should be followed if Marketers are to succeed at their task in Marketing 3.0?



By essentially breaking up Marketing as an interplay of 3 factors – Positioning, Differentiation, and Brand; Kotler designed the 3i framework which encompasses Brand Identity, Integrity, and Image.

A brand should be clearly positioned in the minds, hearts, and spirits of the customers to give it a clear brand identity. Strong differentiation is required to provide brand integrity to the positioning and in turn project a strong brand image of the company.

With this framework and by embracing the shift towards Marketing 3.0, marketers can make the most in this age of participation and collaborative value creation. The key message is - 'Embrace or Perish.'





Hybrid Work Models: Balancing Flexibility with Productivity

Pratusha Ranjan Routray

MBA (HR & Finance)

In the evolving landscape of work, the hybrid work model has emerged as a preferred solution for many organizations, offering a blend of remote and in-office work. As companies seek to adapt to changing employee expectations and operational demands, the challenge lies in striking the right balance between flexibility and productivity.

a. The Appeal of Hybrid Work

Hybrid work models have gained traction due to their ability to offer employees greater flexibility in managing their work-life balance. By

allowing workers to split their time between home and the office, companies can cater to individual preferences, reduce burnout, and potentially enhance job satisfaction. This approach can also attract top talent who value the option to work remotely, especially in a competitive job market.

b. Productivity Concerns and Solutions

While flexibility is a key benefit, maintaining productivity across a dispersed workforce presents unique challenges. Managers may struggle with ensuring that remote employees remain



engaged and productive without the structure of a traditional office environment. To address these concerns, organizations are implementing various strategies:

- **1. Clear Communication Channels:** Establishing robust communication platforms ensures that all team members, regardless of location, stay connected and informed. Tools like Slack, Microsoft Teams, and Zoom facilitate real-time collaboration, helping to maintain team cohesion.
- **2. Performance Metrics:** Shifting from time-based metrics to output-based metrics allows managers to assess productivity based on the quality and quantity of work delivered, rather than hours logged. This encourages employees to focus on results, whether working remotely or in the office.
- **3. Scheduled in-Person Meetings:** Regular in-person meetings or office days can help maintain team culture and foster collaboration that may be difficult to achieve virtually. These sessions also allow for brainstorming and problem-solving that benefits from face-to-face interaction.

- **4. Technology and Tools:** Investing in the right technology, such as project management software and cloud-based systems, is crucial for supporting remote work. These tools enable seamless access to resources and ensure that employees have what they need to perform their tasks efficiently.



c. Maintaining Company Culture

One of the significant challenges of a hybrid model is preserving company culture. Without the daily interactions that occur in a shared physical space, employees may feel disconnected from the organization's values and mission. To counteract this, companies are finding innovative ways to build and maintain a strong culture:

- **Virtual Team-Building Activities:** Regular virtual events, such as online games or coffee breaks, can help foster relationships and maintain a sense of community.
- **Consistent Leadership Communication:**

Transparent and frequent communication from leadership can help keep employees aligned with the company's goals and values, regardless of their work location.

- **Hybrid Mentorship Programs:** Implementing Mentorship Programs that function effectively in a hybrid environment can help integrate new employees and provide ongoing support for career development.

d. Looking Ahead: The Future of Hybrid Work

As hybrid work models become the norm, organizations will continue to refine their approaches to maximize both flexibility and productivity. Companies that successfully navigate this balance will likely see benefits in employee satisfaction, retention, and overall performance. The future of work is undoubtedly hybrid, and those who adapt effectively will be well-positioned to thrive in this new era.





Machine Learning: The Future is Now

By Yashmin Fatma

3rd Year, DIPLOMA, CSE

Machine learning, a subset of artificial intelligence, empowers computers to learn and improve from experience without explicit programming. At its core, it involves feeding algorithms vast amounts of data, allowing them to identify patterns, make predictions, and optimize decisions. This transformative technology is reshaping industries and our daily lives.

Healthcare is one of the most significant beneficiaries of machine learning. From early disease detection through image analysis to drug discovery and personalized treatment plans, AI-driven systems are enhancing patient care. Financial institutions rely on machine learning for fraud detection, risk assessment, and algorithmic trading, optimizing operations and minimizing losses. The automotive industry is undergoing a revolution with self-driving cars, heavily

reliant on machine learning for perception, decision-making, and control. Beyond these sectors, machine learning is optimizing supply chains, personalizing customer experiences, and accelerating scientific research.



Linux: The Open-Source Powerhouse

Pintunath sharma,

DIPLOMA, (CSE)

Linux, far from being just an operating system, is a testament to the power of open-source collaboration. Born from the mind of Linus Torvalds in the early 1990s, it has evolved into a robust, versatile, and secure platform

that underpins a vast array of devices, from smartphones to supercomputers.

At its core, Linux is a kernel, the fundamental part of an operating system that manages hardware and software resources. However, the term “Linux” often refers to the entire operating system distribution, which includes the kernel, essential applications, and a user interface. What sets Linux apart is its open-source nature. This means its source code is freely available for anyone to inspect, modify, and distribute. This openness has fostered a vibrant community of developers who contribute to its constant improvement.

One of the most significant advantages of Linux is its security. With countless eyes scrutinizing the code, vulnerabilities are often discovered and patched rapidly. Additionally, Linux’s permission-based system offers granular control over file access, making it difficult for malicious software to spread. Performance is another area where Linux excels. Its efficient resource management and ability to be tailored to specific hardware configurations make it a preferred choice for servers, high-performance computing, and embedded systems.





Antivirus

Parameswar Malik,
DIPLOMA, CSE Branch

In today's digitally interconnected world, protecting your computer from malicious threats has become paramount. This is where antivirus software steps in as your first line of defense.

Antivirus software is a

computer program designed to prevent, detect, and remove malware, including viruses, worms, and Trojans. These malicious programs can wreak havoc on your system, steal personal information, or even hold your data hostage for ransom.

How does antivirus software work? It essentially acts as a digital immune system, constantly scanning your

computer for suspicious files and activities. By utilizing advanced algorithms and signature databases, antivirus programs can identify known threats and quarantine them before they cause damage. Beyond traditional virus protection, modern antivirus solutions offer a comprehensive suite of features.

EMERGING TECHNOLOGIES

Engineering Innovations for a Sustainable Future

As the inhabitants of a shared planet, it is the responsibility of each one of us to live sustainably; but our reality has been quite the opposite. We live in an era where we take pride in our technological and economic development leading to our improved standard of living. Yet the irony is that most of our development has been unsustainable. Our race for short-term gains and immediate rewards has compromised our environment and natural resources, jeopardizing our posterity's sustenance.

It is high time to take cognizance of the environmental challenges and



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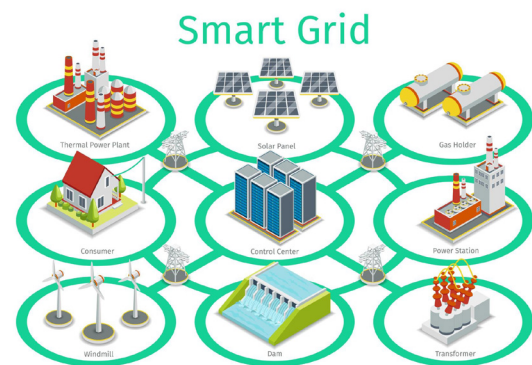
devise sustainable solutions. Globally, engineers and innovators who rise to this occasion and create ground-breaking technologies to pave the way for a more sustainable future are our only saving grace. We bring here a few such innovations that help us tackle the current crisis and provide sustainable solutions for a better tomorrow:

Vertical Farming: Space constraints due to rapid urbanization and population growth make conventional farming more challenging in modern times. An innovative solution to this is vertical farming where layers of crops are stacked under controlled conditions in indoor settings. Using cutting-edge technology such as hydroponics, aeroponics, and LED Lighting, vertical farming minimizes water usage and eliminates the use of pesticides thus protecting and promoting environmental health. Moreover, by localizing the food production, the transportation emissions could be cut down leading to a reduction in the overall carbon footprint.



Smart Grids: It is a tough task to meet the rising energy demands of society with traditional power systems while keeping a check on the environmental impact. The challenges can be attributed to multiple factors like cost, energy losses and limited renewable energy integration. Engineers have found the solution in Smart Grids. Enabled by advanced sensors, communication networks, and data analytics, these intelligent networks optimize electricity generation, delivery, and consumption through dynamic supply and demand adjustments. Smart grids have the potential to reduce carbon emissions, enhance energy efficiency, and pave the way for more sustainable future energy production by integrating renewable sources, energy storage, and real-time monitoring.

RoboBees: Bees are the greatest pollinators of our ecosystem. According to bee experts at the Food and Agriculture Organization (FAO) of the United Nations, a third of the world's food production depends on bees. With the bee population facing significant decline due to climate change, habitat loss, intensive farming practices and excess use of pesticides; ensuring food security through effective pollination becomes increasingly critical. RoboBees, the autonomous drone robotic pollinators are an intelligent initiative in this direction. Equipped with GPS, high-



definition cameras, and artificial intelligence, RoboBees mimic the intricate activities of bees. These drones gather pollen grains on their horse-hair-coated undersides and transfer them from flower to flower; thus increasing pollination efficiency and enhancing crop yield. This technology not only guarantees food security but also improves overall crop quality and fosters genetic diversity.





Solar Impulse Plane:

The solar impulse aircraft powered by renewable energy is a significant leap in environmental-friendly aviation. Designed by engineer Bertrand Piccard and his team this innovative plane harnesses the power of 17,000 integrated solar cells and ultra-light materials to operate its four electric motors. Impressively, it can fly at night thanks to energy-dense lithium batteries charged by solar cells during the day. The Solar Impulse aircraft showcases the potential of clean-tech and renewable energy sources in the aviation industry by completing the first-ever round-the-world solar flight.



Seabin: The ocean, a crucial and expansive habitat, faces increasing pollution that endangers both human health and marine ecosystems. Addressing this pressing issue, Australian innovators

Pete Ceglinski and Andrew Turton founded the Seabin Project, presenting an ingenious solution to reduce ocean plastic pollution. The Seabin is a floating device equipped with a submersible pump that draws water from the surface, trapping debris in a built-in bag. Designed for use in marinas and ports, the Seabin not only captures trash but also removes oils and pollutants, enhancing overall water quality. This eco-friendly technology showcases the power of engineering innovation in protecting marine life and preserving our oceans for future generations.

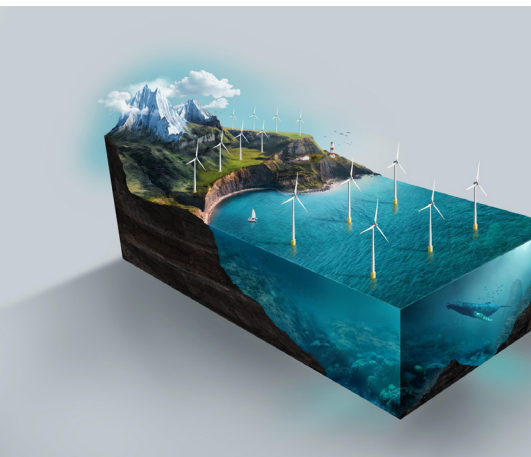


Hyperloop: The Hyperloop concept introduced and developed by Elon Musk through SpaceX has the potential to revolutionize transportation with its high-speed, low-pressure tube system. Based on cutting-edge technology that uses electric propulsion and magnetic levitation, Hyperloop aims to drastically cut down travel time, energy consumption and carbon emissions; thus offering a sustainable alternative to traditional transportation. This concept has captivated the interest of engineers and transportation enthusiasts

across the globe and companies other than SpaceX like Hyperloop TT, TransPod, and Hardt Hyperloop are also actively developing and testing this Hyperloop technology. Though there are multiple challenges from the availability of funds to regulatory hurdles, this technology is being actively developed, holding the promise to transform the way we travel and its impact on our environment.



FlexiWings: Engineers and innovators have often drawn inspiration from nature to develop their designs. One classic example is physicist Vincent Cognet's FlexiWings which is inspired by the intricate design of insect wings. FlexiWings is an innovative advancement in wind turbine technology that mimics the flexible structure of insect wings to adjust pitch angles in response to wind and centrifugal forces, leading to a 35% increase in energy production efficiency. This biomimetic approach enhances performance across various wind conditions, making it a promising sustainable alternative to traditional fossil fuels.



Ocean Thermal Energy

Conversion: Ocean Thermal Energy Conversion (OTEC) is a smart technique that leverages the ocean's natural temperature gradient to generate renewable energy. By using warm surface water to vaporize a working fluid, which drives a turbine, and cold deep water condenses it, OTEC creates continuous, clean electricity. OTEC can provide a viable alternative to traditional energy sources, particularly for tropical island nations, offering a sustainable solution to their energy needs. Recent developments include a storm-resistant structure in the Canary Islands and commercial-scale platforms planned for deployment in São Tomé and Príncipe.

Self-Healing Materials: Self-healing materials perfectly align with the fundamental principle of environmental conservation and waste management which emphasizes the three Rs- Reduce, Reuse, and Recycle. These self-healing materials are advanced substances capable of restoring their structural integrity and functionality after being damaged, mimicking biological systems like human

skin. There are various types of self-healing materials, including polymers, composites, and concrete, each utilizing different mechanisms such as chemical reactions, physical changes, or embedded microcapsules that release healing agents when cracks occur. By repairing themselves, these materials prolong the lifespan of products, significantly reducing the need for new resources and the frequency of replacements.



Integrating self-healing materials into various industries fosters a circular economy, promoting sustainability and reducing the environmental impact associated with manufacturing and disposal processes.

Carbon Capture and

Storage: Carbon Capture and Storage (CCS) technology is emerging as a key player in mitigating climate change by removing CO₂ emissions from the atmosphere. CCS involves capturing CO₂ emissions from industrial sources, such as power plants and factories, and either storing it underground



in geological formations or utilizing it in other industrial processes. This technology is crucial for reducing the environmental impact of CO₂ emissions, enhancing the feasibility of achieving net-zero emissions targets. Recent advancements focus on improving the efficiency and affordability of CCS, making it an indispensable tool for sustainable development and climate action.

CAREER INSIGHTS

Building an Impressive Resume

As college students, all of you have cherished dreams to build successful careers after completing your degree. Every student is eager to explore various possibilities and find the right opportunities to kickstart their professional career. Your resume plays a crucial role in this process and is more significant than you might think. A resume is not a mere document, it is a snapshot of your qualifications, skills and competence. It serves as your first impression to potential employers and markets you even before you get that opportunity.



In today's tough job market, a well-crafted resume is your ticket to stand out among a sea of qualified candidates. Not just at the beginning of your career but you will need to constantly update your resume throughout your professional journey as you upgrade your skills and add to your experience.

Award-winning executive resume writer Adrienne Tom says, "Employers read resumes with one primary question at

the top of their minds: "How can you help me?". They need proof to better determine if you can help with their pain points and possess the necessary skills to perform well in the role. And proof of skill often lies within results."

Adrienne emphasizes detailing of achievements and their impacts to build an impressive resume. She advises job seekers to keep a record of their career achievements for easy future reference. So as you move ahead in your professional career start and maintain a 'brag file' as Adrienne recommends. She gives a list of questions that would help you brainstorm your achievements and maintain a record that could make a significant difference in your resume and the opportunities they bring you.





BRAINSTORM CAREER ACHIEVEMENTS FOR YOUR RESUME

- HOW HAVE YOU REDUCED INEFFICIENCIES? BY HOW MUCH?
- DESCRIBE A TIME WHEN YOU HAVE STRETCHED LIMITED RESOURCES.
- HAVE YOU DONE ANYTHING TO IMPROVE COMMUNICATIONS?
- WHAT ARE YOU MOST PROUD OF (IN YOUR WORK)?
- DID YOU INTRODUCE NEW PROCESSES OR PROCEDURES?
- HAVE YOU TAKEN COMPLEX INFORMATION AND SUMMARIZED IT IN A WAY THAT MADE DECISION-MAKING EASIER?
- DESCRIBE A GOAL YOU MET RECENTLY. DETAIL HOW YOU DID IT.
- HAVE YOU TAKEN A STRESSFUL SOLUTION AND MADE IT LESS SO?
- WHAT TRAINING OR EDUCATIONAL PROGRAMS HAVE YOU ATTENDED RECENTLY?
- WHAT IS YOUR MOST SIGNIFICANT ACHIEVEMENT IN THE PAST YEAR?
- HAVE YOU MADE OR SAVED YOUR ORGANIZATION ANY MONEY? HOW AND HOW MUCH?

Source Credit: LinkedIn
<https://www.linkedin.com/news/story/brainstorm-to-boost-your-resume-6841170/>



DO YOU KNOW?



Nano-Engineered Concrete:

Researchers at MIT have developed a new type of concrete that can conduct electricity. By tweaking how cement is made, concrete could double as energy storage—turning roads into EV chargers and storing home energy in foundations. This “nano-engineered” concrete could revolutionize construction by enabling self-heating roads and smart infrastructure.

3D Printed Bridge:

The world’s first 3D printed pedestrian steel bridge designed by Joris Laarman and built by a Dutch robotics company MX3D was installed over Amsterdam’s Oudezijds Achterburgwal canal. This 40-foot bridge fabricated



from stainless steel rods by six-axis robotics arms equipped with welding gear was opened to the public in 2021, six years after the launching of the project.

Quantum Supremacy:

In 2019, Google’s quantum computer- Sycamore performed a calculation in 200 seconds, that Google claimed, would take a state-of-the-art supercomputer 10,000 years to finish. Quantum computers are getting closer to solving complex problems that classical computers cannot. Google claimed to have achieved this “quantum supremacy” through Sycamore in a paper published in Nature, a British scientific journal.



Night Solar Panels:

According to research published in Applied Letters in Physics, researchers at Stanford have modified commercially available solar panels to generate a small amount of electricity at night by exploiting a process known as radiative cooling, which relies on, the frigid vacuum of space. Shanhui Fan, lead researcher on the project says, “The coldness of outer space is also an extremely important renewable energy resource.”



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