

FROM THE



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Table of Contents

01	Foreword
02	India's Ambitious Strategy to Attract Global High-End Electric Vehicle Manufacturers, Including Tesla
03	FPGAs in Automotive Manufacturing: Enhancing Customizable Vehicles
03	Foxconn's EV Venture Aims for Affordable EV Production in India and Thailand
04	Automotive Developments in August 2023: UK Emissions Regulations, Li Auto's Expansion, and North American EV Charging Network
05	Driving Supply Chain Innovation: Study Highlights Accelerated Initiatives and Technology's Role
06	Researchers Develop Cost-Effective Chromium Compounds to Replace Noble Metals in Luminescent Materials and Catalysis
07	Challenges and Interventions for Balanced Global Solar Energy Transition
08	MIT Researchers Emphasize Role of Soft Technology in Reducing Solar Energy Costs
09	IMT Hyderabad and GEAR Launch Inaugural Net Zero Summit to Drive Sustainability in Indian Industries
10	Sustainability Transformation: Navigating Business Success in the Age of Innovation
11	Desalination: Transforming Water Security and Sustainability
12	SAP's Solution for Navigating Plastic Waste Regulations and Achieving Sustainable Packaging
13	A Buried Tune of Economics
17	YOUTH FOR INDIA
19	Society of Mechanical and Automotive Engineers Updates

FOREWORD

Dear Readers,

Greetings as you delve into the inaugural issue of SMAE Magazine. Our journey with SMAE commenced in 2017 with a singular mission: to forge a connection between the realms of academia and industry. Over the years, our efforts have given rise to numerous initiatives tailored to empower students. Today, with immense gratification, we unveil a groundbreaking addition to our repertoire – the very first edition of SMAE Magazine.

Within these pages, a world of enlightenment awaits, spanning the domains of Electric Vehicles (EVs), Solar Energy, Sustainability, SAP Integration, Logistics and Supply Chain Management, and Refrigeration. This publication endeavors to serve as a conduit for both students and industries, offering profound insights into global occurrences within these sectors. Our aspiration is to acquaint you with a plethora of initiatives poised to benefit and uplift students and industries alike.

Warm Regards,
Sai Kiran Neela,
Editor in Chief,
Wise Cruiser Magazine.

India's Ambitious Strategy to Attract Global High-End Electric Vehicle Manufacturers, Including Tesla

In a bid to attract prominent international auto giants like Tesla to the high-end electric vehicle (EV) sector, the Indian government is contemplating the implementation of a phased manufacturing plan (PMP) scheme. This scheme aims to foster an environment conducive to the entire EV industry's growth while building a robust domestic ecosystem.

The envisioned PMP scheme, currently in its early stages of discussion, would feature a graded duty structure to stimulate domestic manufacturing and accelerate the EV transition in India. Unlike brand-specific strategies, this company-agnostic approach is designed to benefit the broader industry.

Tesla, aiming to expand beyond its substantial presence in China, has engaged in discussions with Indian authorities after a meeting with Prime Minister Narendra Modi. The company's CEO, Elon Musk, expressed optimism about India and conveyed Tesla's willingness to bring its entire ecosystem, including suppliers, to the country. Preliminary talks indicated that Tesla could potentially enter the Indian market through either the PMP or FAME (faster adoption & manufacturing of electric vehicles) route.

Tesla isn't the only interested player; global majors like BMW and Foxconn have also shown interest in the Indian EV market. BMW is considering setting up a manufacturing facility after a proposed duty-free import phase. Similarly, Foxconn's EV platform, Mobility in Harmony, is exploring possibilities to establish a base in India or Thailand for an affordable three-seat EV.

The phased manufacturing programme aims to encourage companies to gradually localize production, offering incentives to promote investments. This initiative aligns with India's broader ambitions to foster EV adoption, drive economic growth, and establish itself as a prominent player in the global electric vehicle industry.

Source : Economic Times



FPGAs in Automotive Manufacturing: Enhancing Customizable Vehicles

The automotive industry has evolved significantly, with electronic control units (ECUs) transitioning to specialized application-integrated circuits (ASICs) and Field programmable gate arrays (FPGAs). These chips enable advanced features, making vehicles computational powerhouses. FPGAs stand out due to flexibility, faster feature introduction, and adaptability.

Versatile Functionality of FPGAs:

FPGAs offer high-speed connectivity, support diverse interfaces, and enable seamless interaction with devices. They excel in real-time tasks, enabling autonomous vehicles to adapt to road conditions. With their flexible architecture, FPGAs bring forth a multitude of dynamic capabilities that contribute to an enriched driving experience, foremost among them being high-speed connectivity

Redefining Success: The Impact of Time-to-Market:

FPGAs can be configured, tested, and reprogrammed as needed within a matter of weeks, providing a swift and adaptable solution, reducing time-to-market for automotive applications and facilitating over-the-air updates.

Swift Route to Leading Position for FPGAs:

FPGAs offer agility and reliability, positioning automakers ahead of competitors by enhancing time-to-market and vehicle performance. Their growing role in large-scale automotive production drives innovation.

Source : Timesev

Foxconn's EV Venture Aims for Affordable EV Production in India and Thailand

Foxconn's electric vehicle (EV) platform unit, Mobility in Harmony (MIH), is targeting India and Thailand as potential production sites for a budget-friendly small battery-powered car currently under development. MIH's CEO, Jack Cheng, expressed willingness to collaborate with the parent company or other partners to create a three-seat EV tailored for corporate delivery fleets, priced between \$10,000 & \$20,000. The prototype EV is set to be unveiled at a major auto trade show in Japan in October, and MIH has engaged in talks with convenience stores, car rental companies, and courier services. India's potential for growth in the EV sector is highlighted, and MIH's manufacturing strategy aims to tap into emerging markets' demand. MIH's vision encompasses a series of low-cost, shared platform EVs, with plans to start production approximately 18 to 24 months after the prototype reveal.

Source : Economic Times

Automotive Developments in August 2023: UK Emissions Regulations, Li Auto's Expansion, and North American EV Charging Network

In August 2023, several significant developments are shaping the automotive sector:

1. UK Emissions Rules:

The UK government reinstated its heavy goods vehicle (HGV) levy with a focus on carbon-dioxide emissions, weight, and time spent in the UK. Vehicles weighing 12 tonnes or more on motorways or A roads must pay a tax varying from £150 to £749 per vehicle per year. London's ultra-low emission zone (ULEZ) will expand to cover all city boroughs, necessitating compliance with emission standards or facing a £12.50 daily charge. Although this is expected to slightly impact clean-car sales, the overall effect on emissions is projected to be minimal due to various economic factors.

2. Li Auto's Production Expansion:

Beijing-based Li Auto is set to commence operations at its second manufacturing facility, focusing on producing its first EV, an MPV named W01. The company has been performing well due to high demand, setting delivery records and reporting strong revenue and profit increases. The new facility is expected to further boost the company's performance.

3. North American EV Charging Network:

Seven global automakers, including BMW, Mercedes-Benz, General Motors, Hyundai, Kia, Stellantis, and Honda, plan to establish a joint venture to install over 30,000 fast-charging points across the US and Canada. The network will utilize the Combined Charging System and North American Charging Standard connectors. Favorable fiscal support and incentives for EVs in the US are expected to drive sales growth.

Overall, these developments reflect the automotive sector's ongoing efforts to address emissions regulations, expand production capabilities, and enhance EV charging infrastructure to meet the growing demand for electric vehicles.

Source : Economist Intelligence



Driving Supply Chain Innovation: Study Highlights Accelerated Initiatives and Technology's Role

Introduction:

Supply chain challenges have spurred increased focus on innovation among companies in recent years. A study by Descartes surveyed 1,000 supply chain and logistics executives across North America and Europe, revealing that a majority of companies have accelerated their innovation initiatives in response to ongoing challenges. This study sheds light on the motivations for innovation, the factors driving it, and the role of technology in this evolving landscape.

Accelerated Innovation Initiatives:

The study found that 57% of companies accelerated their innovation initiatives due to supply chain challenges experienced over the past few years. Moreover, 65% of respondents intend to invest more in supply chain and logistics innovation in the next two years. This acceleration highlights the importance of adapting to changing market conditions and optimizing supply chain operations for greater efficiency.

Motivations for Innovation:

The top reasons cited for investing in innovation were to lower costs and improve reliability, both at 37%. A significant proportion (43%) of respondents described their pace of innovation as "ahead of the competition" or "industry leader." These findings reflect the evolving priorities of supply chain and logistics executives, with cost reduction and operational reliability taking center stage.

Factors Driving Innovation:

The study underscored that the recent years' challenges, including shifts in demand, supply chain disruptions, and labor shortages, have driven companies to rethink their strategies, tactics, and technologies. The majority of respondents (59%) revealed that their companies accelerated innovation as a direct response to these challenges. Companies with senior management support for innovation (68%), better financial performance (67%), and lower employee turnover (66%) were more likely to accelerate their innovation initiatives.

Technology's Role in Innovation:

Technology solutions have become instrumental in supply chain and logistics innovation. The study showed that 61% of respondents believed their current technology solutions were aiding their companies, not hindering them. However, 39% reported experiencing either no negative impact or no impact at all from their technology solutions. A subset of respondents (20%) even believed that technology solutions were hurting business performance.

Interestingly, the positive impact of logistics and supply chain technology solutions was found to increase (70%) when senior management considered innovation very important and the company demonstrated better financial performance (69%). Conversely, the positive impact decreased when senior managers valued innovation less (46%) and the company's financial performance was poorer (49%).

Conclusion:

Innovation in supply chain and logistics has become a pressing imperative driven by various challenges, from demand shifts to disruptions. Companies are not only accelerating their innovation initiatives but also investing more in them for the future. The motivations for innovation have shifted toward cost reduction and reliability, with technology playing a crucial role in driving operational efficiencies. Successful technology implementations are closely tied to senior management's support for innovation and the company's financial performance. This study reinforces the significance of innovation in navigating the evolving landscape of supply chain and logistics.

Source : MH&L

Researchers Develop Cost-Effective Chromium Compounds to Replace Noble Metals in Luminescent Materials and Catalysis

Researchers at the University of Basel have developed chromium compounds that can replace expensive noble metals like osmium and ruthenium in luminescent materials and catalysts. These materials exhibit similar properties to those previously used, with the advantage of chromium being significantly cheaper and more abundant. The new chromium compounds are effective in luminescent applications and photochemical reactions triggered by light, potentially aiding in artificial photosynthesis for solar fuel production. The researchers constructed a tailored organic framework to optimize the performance of chromium, making it reactive under light exposure. This development offers an alternative to noble metals and could lead to advancements in various applications such as pharmaceutical production and energy conversion. Further research is planned to refine the materials and expand their potential applications.

Source : Science Daily



Challenges and Interventions for Balanced Global Solar Energy Transition

The transition to renewable energy sources is imperative to achieve zero carbon emissions, universal energy access, job creation, and economic stability. Solar energy technology is pivotal in this transition, yet three imbalances hinder its universal adoption.

1. **Geographical Imbalance:** Most solar energy investments are concentrated in developed countries, leaving limited opportunities for developing nations, particularly in Africa. This hampers progress in energy access and sustainability in these regions.

2. **Sectoral Imbalance:** While large-scale solar farms receive significant investment, smaller-scale applications like solar pumps and cold storages are neglected. These decentralized solutions are vital for localized energy access in diverse settings. Hence these smaller-scale applications should also be given priority.

3. **Manufacturing Concentration:** Over 80% of solar technology manufacturing is dominated by two countries, leading to supply chain disruptions and price increases worldwide. As demand is expected to rise dramatically by 2030, this issue becomes even more critical.

Three interventions are proposed to address these imbalances:

1. **Solar Mini-Grids and Standalone Systems:** Implement solar mini-grids and standalone systems to enhance universal energy access, especially in remote areas. A mix of grid, mini-grids, and standalone systems can ensure reliable energy for all. Solar mini-grids prove especially beneficial for villages and towns situated beyond a distance of 10-15 kilometers from the main power grid. Conversely, for areas characterized by population densities of fewer than 400 individuals per square kilometer, solar stand-alone systems represent a sensible choice.

2. **Diversified Manufacturing:** Geographical diversification of solar technology manufacturing is needed. Countries with demand potential should manufacture solar modules, reducing supply chain vulnerabilities and costs.

3. **Integration of Solar Energy:** Integrate solar energy into various sectors, including the use of green hydrogen as a transformative fuel and storage medium. Collaboration, knowledge exchange, and policy improvement are crucial to accelerate the transition.

Clean energy investment needs to triple by 2030 to meet renewable energy capacity goals. As the world approaches critical climate targets and a global stocktake, sharing successful regulatory frameworks, business models, and expertise is essential. Strategic decisions made today will shape the future energy landscape, necessitating cooperation between governments, businesses, and global entities.

MIT Researchers Emphasize Role of Soft Technology in Reducing Solar Energy Costs

MIT researchers underscore that continued reduction in the costs of solar energy and other clean energy technologies necessitates a strategic focus on non-hardware components, known as "soft technology." Although hardware advancements have been key contributors to the substantial cost decreases in solar energy installations over the years, the study reveals that "soft technology" elements such as permitting procedures, supply chain management practices, and system design have accounted for a relatively modest 10 to 15 percent of the overall cost decline.

Despite the dominance of hardware improvements in the past, the researchers warn that the growing share of soft technology costs in the total cost structure poses a challenge to achieving further cost reductions and the global shift toward cleaner energy sources. The senior author of the study, Jessika Trancik, highlights that this trend could impede future cost savings and hinder the worldwide transition to renewable energy. To address this concern, the research team proposes two key strategies. Firstly, they suggest designing hardware enhancements that make soft technology costs more reliant on hardware technology variables, thereby reducing the dependence on soft technology factors. This could involve developing standardized and simplified equipment that streamlines installation processes and minimizes soft technology-related expenses. Secondly, they recommend focusing directly on optimizing soft technology features by improving installation workflows and implementing automated permitting platforms.

The researchers stress that while technological advancements often focus on hardware improvements, refining soft technology aspects is equally crucial. Soft technology encompasses various operational aspects involved in deploying energy systems and streamlining them can lead to significant cost reductions. By highlighting the importance of these often-overlooked elements, the study encourages a holistic approach to innovation in the renewable energy sector.

This research, supported by the U.S. Department of Energy Solar Energy Technologies Office, not only sheds light on the role of soft technology in cost dynamics within the solar energy sector but also lays the groundwork for similar analyses in other technological domains. The research team aims to apply their model to explore soft cost dynamics in technologies like electric vehicle charging and nuclear fission, as well as to uncover avenues for designing more efficient soft technology solutions from the outset.

Source : Science Daily



IMT Hyderabad and GEAR Launch Inaugural Net Zero Summit to Drive Sustainability in Indian Industries

The Institute of Management Technology (IMT) Hyderabad, in collaboration with GEAR, a prominent Material Handling Equipment provider in India, successfully inaugurated the first edition of the Net Zero Summit. Themed "Net-Zero 2023: Indian Industry Initiatives and Implications (4I)," the event took place on August 19th, 2023, at IMT Hyderabad. The summit brought together leaders and experts to address the imperative of achieving Net Zero emissions, a goal requiring substantial investments in green technologies. India's aim to eliminate fossil fuel dependency demands an estimated annual investment of \$160 billion until 2030. The summit highlighted four pillars - Innovation, Integration, Implementation, and Impact - as fundamental components for Indian industries to align with the country's Net Zero objectives. The event featured esteemed speakers from organizations such as Dr Reddy's Laboratories, Exide Energy, ITC Limited, Greenko, and Infosys, engaging in panel discussions and addresses that explored various dimensions of Net Zero. Dr K Sriharsha Reddy, Director of IMT Hyderabad, emphasized the institution's dedication to fostering sustainable practices, and Dr Kalyana C Chejarla, Chairperson of the summit, underscored its role as a catalyst for collaborative action between academia, industry, and advocacy firms. Notable panel discussions were expertly moderated and covered challenges and opportunities tied to the journey to Net Zero. The summit's conclusion emphasized the significance of collaborative efforts in realizing India's ambitious Net Zero targets. Attendees, including students and industry professionals, praised the event's thought-provoking content and its potential to drive positive change within the Indian business landscape.

Source : The Hans india



Sustainability Transformation: Navigating Business Success in the Age of Innovation

In today's complex business landscape, organizations are recognizing the imperative of addressing sustainability goals alongside customer demands and growth objectives. Climate-related risks are now considered significant challenges by organizations, leading sustainability to become a strategic necessity. Embracing sustainable practices not only mitigates climate change risks but also unlocks opportunities for innovation, resilience, and long-term success.

The digital revolution has elevated energy consumption due to customized products and streamlined processes. To adopt an environment-first approach, businesses are turning to sustainability transformation. Technologies like AI, blockchain, and quantum computing are used to enhance competitiveness while minimizing environmental impact. Advanced solutions like smart building systems, robotics, and digital twins reduce the carbon footprint. Blockchain and digital platforms play a crucial role in decarbonizing operations, enhancing collaboration, and fostering transparency.

Green hydrogen fuel cells, particularly low-carbon hydrogen, hold promise for decarbonization efforts. Organizations are adopting green hydrogen to reduce their carbon footprint, surpassing emissions of renewable-powered electric vehicles. Investment in renewable energy and green hydrogen aims to decrease reliance on traditional fuel sources.

While companies aim to reduce emissions before 2050, carbon removal becomes essential to achieve the 1.5°C global warming target. Technologies like Direct Air Capture (DAC) trap atmospheric carbon dioxide, contributing to emissions reduction.

Renewable energy affordability is driving a shift toward a sustainable future. Increased global solar capacity ensures sustainable power availability, reshaping business models. As renewables gain prominence, energy-storage solutions and grid-management services play a pivotal role in managing intermittent energy supply.

In response to climate change, businesses are incorporating sustainability into their operations. Alternatives like EVs and drones are explored for last-mile deliveries. Optimization of packaging materials, waste reduction, and eco-friendly practices throughout the product lifecycle are being adopted. Transformative technologies like IoT, blockchain, and AI offer real-time visibility into supply chains, energy conservation, and carbon emissions reduction.

Recognizing consumer demand for eco-friendly products and ethical business conduct, organizations are aligning brand promises with sustainability goals. By openly sharing efforts and commitments, businesses attract a dedicated customer base valuing sustainability as a core purchasing criterion. In navigating the challenges of the modern world, sustainability transformation emerges as a necessity for achieving business success.

Desalination: Transforming Water Security and Sustainability

Amidst escalating climate change threats and diminishing water resources, desalination is emerging as a promising solution, particularly for water-scarce nations. Israel stands as a notable example, demonstrating how efficient water management, technology, and desalination can effectively combat water scarcity.

Israel's desalination capacity has surged, producing a significant proportion of its drinking water. The nation's visionary approach diversified water sources, replacing reliance on freshwater from the Sea of Galilee. Five desalination plants along the coastline, with more under construction, account for a substantial portion of water consumption.

Despite Israel's success, replicating the model globally presents challenges due to financial considerations and contextual factors. However, the desalination market's future appears optimistic, with substantial growth forecasted, driven primarily by countries like China and the United States. Nevertheless, the energy-intensive nature of desalination remains a challenge, demanding significant energy inputs. The incorporation of renewable energy sources, such as solar power, could significantly reduce costs and environmental impact.

India, facing water stress due to population growth and climate change, can draw lessons from Israel's journey. Emulating Israel's success, India can adopt desalination technology, prioritize wastewater recycling, implement localized water management, integrate renewable energy, engage in water diplomacy, promote public awareness, encourage innovation, formulate comprehensive policies, and focus on capacity building.

While the adoption of desalination is growing, addressing the by-product, brine, is crucial. The concentrated chemical residue must be managed to prevent harm to marine ecosystems. As the world continues to rely on desalination, converting brine into a beneficial resource becomes essential for both economic and ecological reasons.

In the face of water scarcity and environmental concerns, desalination offers a viable path toward water security and sustainability. The combination of technological innovation, efficient practices, and strategic policies holds the key to ensuring water availability for future generations.

Source : Down to Earth



SAP's Solution for Navigating Plastic Waste Regulations and Achieving Sustainable Packaging

In response to the rapid expansion of plastic waste regulations worldwide, businesses are facing increasing pressure to comply with measures such as plastic taxes and extended producer responsibility (EPR) laws. Consumer awareness and demand for eco-friendly packaging are also driving companies to adopt sustainable practices. SAP's Responsible Design and Production solution has emerged as a powerful tool to help businesses navigate these complex challenges.

The regulatory landscape is evolving at an unprecedented pace, with countries like the United Kingdom, Spain, and the United States enacting plastic taxes and EPR laws. The United Nations is also set to launch a plastic treaty in 2024, while businesses are committing to sustainable practices through voluntary agreements. Consumers are showing strong concern for plastic waste, and many are willing to pay more for eco-friendly packaging. Compliance with these regulations presents both financial and operational challenges for businesses, especially smaller organizations. SAP's solution addresses these complexities by providing a streamlined approach to monitoring, measuring, and reporting the environmental impact of production and packaging. It helps companies accurately calculate plastic taxes and EPR fees by capturing data on material flows, circularity attributes, packaging components, recycled content, and more.

A notable success story is Henkel, a consumer goods company that used SAP's solution to efficiently manage its plastic waste challenge. The solution facilitated the intricate process of assessing primary, secondary, and tertiary packaging, as well as transport packaging throughout the supply chain. By offering a digital model of the packaging landscape, SAP's solution enables precise impact analysis, ensuring tax and compliance accuracy.

Beyond compliance, the solution empowers businesses to make informed strategic decisions by providing insights into material choices, compositions, and the overall environmental impact of packaging. Henkel's experience exemplifies how the solution not only enhances short-term efficiencies but also spotlights a company's commitment to reducing its environmental footprint.

SAP Responsible Design and Production's capabilities are expanding to accommodate diverse material types and factors relevant to the circular economy, such as virgin materials, recycled content, embedded CO₂, and renewable content. As the global economy transitions toward circular models, SAP's solution is poised to play a pivotal role in helping businesses eliminate waste, promote material circulation, and enhance sustainability strategies. Incorporating SAP's Responsible Design and Production solution into business processes is a step toward achieving circular economy goals. The solution enables organizations to comply with regulations, accurately calculate fees, and gain valuable insights for more sustainable packaging decisions.

A Buried Tune of Economics

It's a story we seldom tell, buried beneath the glossy veneer of economic growth and prosperity. In our society's relentless pursuit of progress, we have conveniently overlooked the shadowy side streets where mental health and economic stability intersect. The narrative we prefer to embrace is one of upward mobility, wealth, and success. But beneath the surface, in the quiet corners of our minds and communities, a different story unfolds – one of invisible chains forged by economic factors.

The Illusion of Stability

In the grand theatre of our lives, we are often cast in the role of the unwavering optimist, embracing the illusion of economic stability with open arms. It's a narrative that society has etched into our collective consciousness – the belief that financial security is the cornerstone of happiness and success. We are told, from a young age, that a well-paying job, a comfortable home, and the ability to provide for ourselves and our loved ones are the hallmarks of a life well-lived.

This illusion is perpetuated through myriad channels – from advertisements that promise fulfilment through material possessions to societal norms that equate wealth with worth. We celebrate the success stories of those who have climbed the economic ladder, their triumphs held up as beacons of inspiration. We are inundated with images of opulence and excess, reinforcing the idea that financial prosperity is the ultimate goal.

Yet, beneath the glossy facade of this illusion lies a deeper, more complex reality. It's a reality that often remains hidden, obscured by the relentless pursuit of economic success. The truth is that economic stability is not a guaranteed destination for all, and the journey to get there is far from uniform. For many, the pursuit of economic stability is akin to chasing a mirage in a desert of uncertainty. The promise of a stable job and a secure future is often elusive, particularly in a world characterized by economic volatility and rapidly changing industries. The relentless pressure to attain financial security can take a toll on mental well-being, creating a paradox where the very pursuit of happiness becomes a source of stress.

Moreover, the illusion of stability masks the fact that economic circumstances are not solely determined by individual effort and merit. It overlooks systemic factors such as economic inequality, discrimination, and barriers to access that shape an individual's economic reality. In this illusion, we are encouraged to blame ourselves for any economic hardships we encounter, further perpetuating a culture of shame and silence.

This is a reflection on the societal narrative that places economic stability on a pedestal. It challenges the assumption that financial success equates to happiness and wellbeing for all, highlighting the often-unseen struggles and pressures that individuals face in the pursuit of this illusion. It sets the stage for a deeper exploration of the hidden consequences of economic instability on mental health, urging us to re-evaluate our values and priorities in a world where the illusion of stability can mask the harsh realities that many endure.

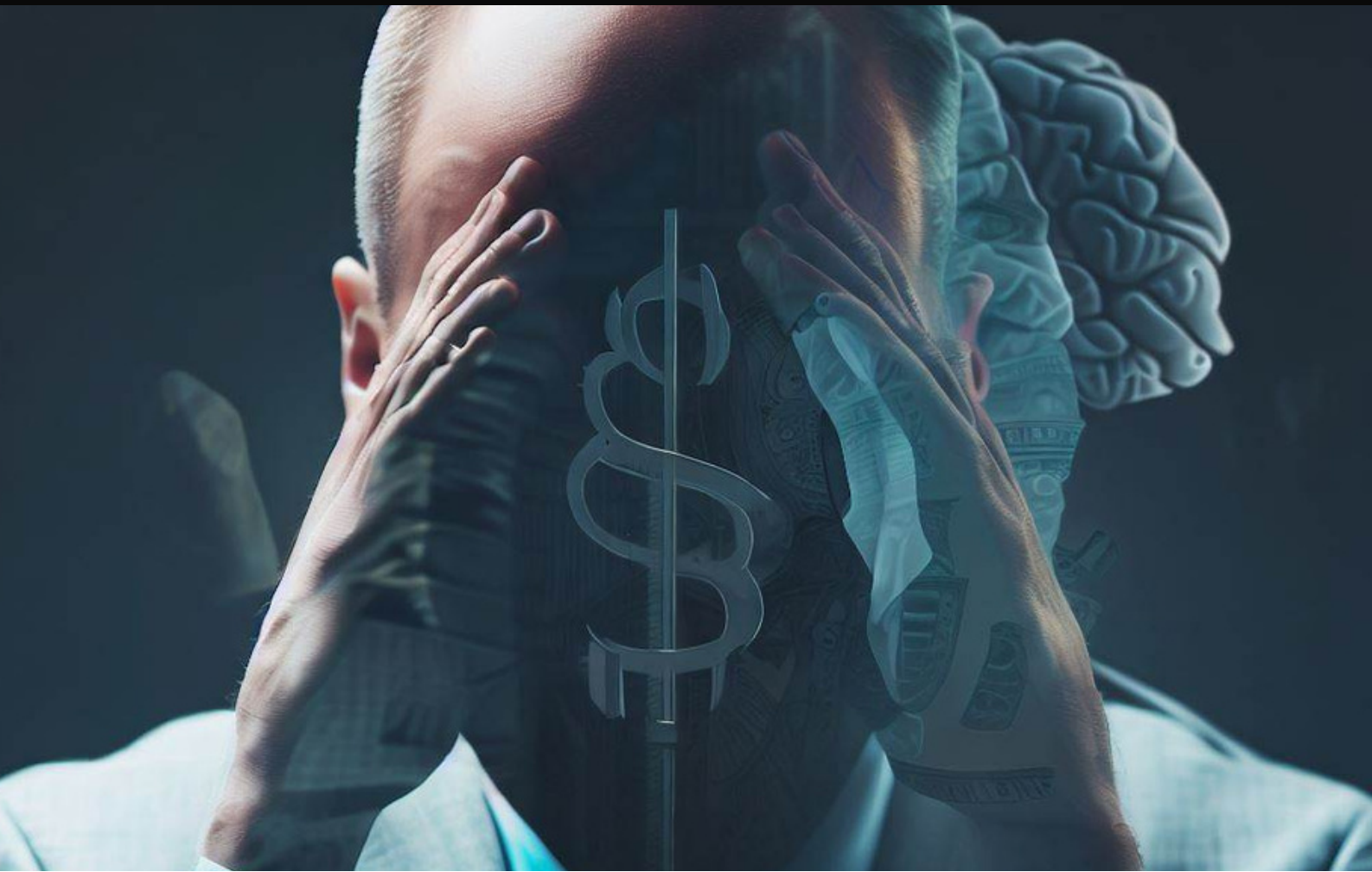
The Weight of Economic Insecurity

Imagine you wake up each morning with a knot in your stomach, a gnawing anxiety that accompanies you throughout the day. It's the result of economic insecurity, a relentless presence that refuses to be ignored. You may have a job, but it feels precarious, as if it could vanish in an instant. Bills pile up, and the spectre of financial instability looms over your every decision.

Job insecurity is a relentless source of stress. It's the fear of being handed a pink slip, of being deemed expendable in a competitive and unforgiving job market. It's the knowledge that your livelihood is contingent on the whims of corporate decisions, often made far removed from the daily realities of your life. This weight is not just physical; it's emotional, psychological, and existential.

Economic insecurity extends its reach beyond job stability. It infiltrates every aspect of life. It's the sinking feeling when you check your bank account and wonder how you'll make ends meet. It's the sleepless nights spent calculating how long your savings can stretch in case of a job loss. It's the strained conversations with family and friends as you grapple with the burden of financial worries.

But the weight of economic insecurity is not solely measured in dollars and cents. It also manifests in mental and emotional tolls. Chronic stress becomes a constant companion, eroding your mental well-being. The fear of the unknown, the relentless pressure to secure your financial future, and the constant state of alertness can lead to anxiety, depression, and a sense of hopelessness that permeates your daily life.



What's particularly insidious about economic insecurity is that it thrives in silence. Society often discourages open conversations about financial struggles. Admitting to economic hardship is seen as a sign of failure, a breach of the unspoken code that equates financial success with personal worth. This stigma creates a culture of shame and silence, where individuals suffering from economic insecurity bear their burdens alone.

We dive deep into the profound weight of economic insecurity. It paints a vivid picture of the emotional and psychological toll it exacts on individuals. The narrative underscores the relentless nature of job insecurity and the far-reaching impact of economic instability on mental health. It challenges society's reluctance to discuss economic struggles openly and calls for a more compassionate and supportive approach to those grappling with the weight of economic insecurity.

The Silence of Stigma

In the narrative of our society, a subplot often goes untold, shrouded in secrecy and shame. It's the story of economic struggle, a tale that society has deemed too uncomfortable for polite conversation. This subplot, woven with the threads of stigma, creates a culture of silence that stifles the voices of those grappling with economic insecurity and its profound impact on mental health.

The stigma surrounding economic hardship is a formidable antagonist in this subplot. It thrives on the notion that financial success is synonymous with personal worth, and economic struggles are an admission of failure. This deeply ingrained belief system reinforces a culture of silence, where individuals suffering from economic insecurity are reluctant to speak openly about their challenges. This problem is multifaceted. It manifests in the fear of judgment and the shame associated with financial struggles. It's the dread of being labeled as lazy, irresponsible, or incapable of managing one's finances. This stigma permeates our conversations, our social interactions, and even our self-perception.

For many, discussing economic insecurity feels like a breach of an unspoken code of conduct. We've been conditioned to believe that vulnerability in this area is a sign of weakness. As a result, individuals often bear the emotional and psychological burden of economic insecurity in silence, fearing the judgment and rejection of their peers.

This culture of silence has devastating consequences for mental health. The isolation and shame experienced by those suffering from economic insecurity can exacerbate feelings of anxiety and depression. The act of concealing one's struggles becomes an additional source of stress, perpetuating a cycle of emotional turmoil.

Moreover, the silence of stigma prevents individuals from seeking the support they desperately need. It discourages open conversations about mental health and financial struggles, creating a barrier to accessing resources and assistance. As a result, individuals facing economic insecurity are left to navigate their challenges alone, further deepening the emotional and psychological toll.

This silence of stigma that envelops economic insecurity exposes the profound shame and fear that prevent individuals from discussing their financial struggles openly. The narrative delves into the emotional consequences of this silence, highlighting its role in exacerbating mental health challenges. It challenges society's judgmental attitudes and calls for a more compassionate and supportive approach to individuals grappling with economic insecurity.

The Unseen Consequences

The interplay between economic instability and mental health unravels the hidden, yet profound consequences. This dynamic delves into the darkness that often remains concealed, exploring the emotional and psychological toll that economic insecurity exacts on individuals, families, and society at large.

Picture the scene: It's a quiet evening, and a family sits around the dinner table. On the surface, everything seems ordinary. But beneath the facade, there's an undercurrent of stress and anxiety that permeates the room. The parents are burdened with the weight of economic insecurity, their faces etched with worry. The children, too young to fully comprehend the complexities of their parents' struggles, absorb the tension in the air. Economic instability introduces an element of unpredictability into daily life. It's the fear of the unknown, the nagging uncertainty about the future. This chronic stress, often stemming from concerns about job security, mounting bills, or the inability to provide for one's family, takes a toll on mental well-being. It becomes a silent but persistent antagonist, eroding the emotional resilience of individuals.

Depression, anxiety, and a sense of hopelessness frequently become unwelcome companions for those grappling with economic insecurity. The relentless pressure to secure one's financial future, combined with the emotional burden of uncertainty, can lead to a sense of despair that permeates daily life. These mental health challenges can extend beyond the individual, affecting relationships and family dynamics.

Families often bear the brunt of these unseen consequences. The emotional strain experienced by parents or caregivers reverberates through the household. Children may witness their parents' distress and internalize it, leading to their own mental health challenges. The cycle continues as the family unit becomes a crucible of economic and emotional instability. Furthermore, the consequences extend to society as a whole. Individuals facing economic insecurity may be less productive at work, perpetuating a cycle of job insecurity. The strain on mental health services and the healthcare system increases as more individuals seek support for their mental health challenges. The overall fabric of society becomes frayed as the consequences of economic instability ripple outward.

This underscores the profound, though often invisible, consequences of economic insecurity on mental health. It paints a vivid picture of the emotional and psychological toll it exacts on individuals, families, and society. It challenges society to acknowledge and address these consequences, highlighting the interconnectedness of economic stability and mental well-being. This act serves as a poignant reminder that the impact of economic insecurity extends far beyond the individual, affecting the very fabric of our communities and society.

–Abhay Chakra Sadineni

YOUTH FOR INDIA

Society of Mechanical and Automotive Engineers (SMAE) believes that sustainability is intricately woven into the fabric of nature and finds expression through various art forms. These art forms serve as a powerful medium to raise awareness, inspire creativity, and foster deeper connections between humans and the environment, ultimately contributing to the preservation of our planet for future generations.

As a part of the initiative, SMAE has collaborated with Vaitalika Foundation, a student-led nonprofit organization dedicated to transforming the lives of underprivileged children by providing them with the opportunity to learn and experience the richness of Indian classical arts founded by Preethika Pavirala.



First Art Workshop on Kuchipudi was organized at Telangana Social Welfare Residential School, Falaknuma, Hyderabad. Trainers for this workshop were Kumari. Nikita Katuri and Kumari. Praneetha Tammareddy.





- Society of Mechanical and Automotive Engineers has presented the esteemed PVNR Young Leader Award – 2023 to Dr.Tusharika Sinha Banerjee in July 2023, who has made exceptional contributions towards sustainable development.

PVNR Young Leader award is a tribute to the vision of former Prime Minister of India, Mr. P V Narasimha Rao, initiated on his 100th birth anniversary. The award is aimed at recognizing and encouraging young professionals who are working towards community development through sustainability and technology. The award not only recognizes the achievements of the recipients but also inspires others to work towards the betterment of society through sustainable development and technological advancements. It encourages young professionals to think innovatively and work towards creating a better world for future generations.

SMAE, the organization behind the "PVNR Young Leader Award", is committed to promoting sustainable development and technological advancements for the betterment of society. Through this award, SMAE hopes to encourage and inspire young professionals to take up the challenge of creating a sustainable future for all. The award recipients are chosen through a rigorous selection process that involves a panel of experts from the field of sustainability and technology. The criteria for selection included the impact of the work, innovation, and leadership qualities demonstrated by the individual.

Our Awardees



2021

Mr. Raghuveer Chadalavada

Founder & CEO - Aurita Bikes



2022

Mr. Abhay Chakra Sadineni

Co-Founder & CEO - Natulatech Solutions Pvt Ltd,
President - The Circular,
Director IRC - DESC



2023

Dr. Tusharika Sinha Banerjee

Founder - Sweekriti Asset,
Associate Professor - Pillai College
of Engineering

- In August 2023, SMAE has announced its latest initiative focused on providing students with specialized SAP training programs. SMAE understands the importance of sustainability and the role SAP plays in efficiency and positive change. SMAE goal is to empower students with expertise that revolutionize businesses while contributing to a greener, more sustainable world. As a part of this, SMAE has launched SAP Materials Management Training.
- SMAE, in partnership with CARJOZ, a one stop solution for car maintenance and repair, is proud to unveil an immersive industrial training program which will be soon conducted at Carjoz Flagship Garage. This initiative is designed to offer students invaluable hands-on experience, delving deep into the realms of comprehensive car maintenance, repair, and diagnostics. Our mission is to empower students with practical prowess in the automotive domain

Readers Corner

An open invitation to our valued readers and industry experts: Join us in enriching our magazine's content. In our upcoming issue, we're introducing a 'Readers' Corner' to showcase your articles. You can Share your personal narratives, groundbreaking innovations, and the profound societal impact of your endeavors. If you'd like to contribute, please email your submissions to contact@smae.in.

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