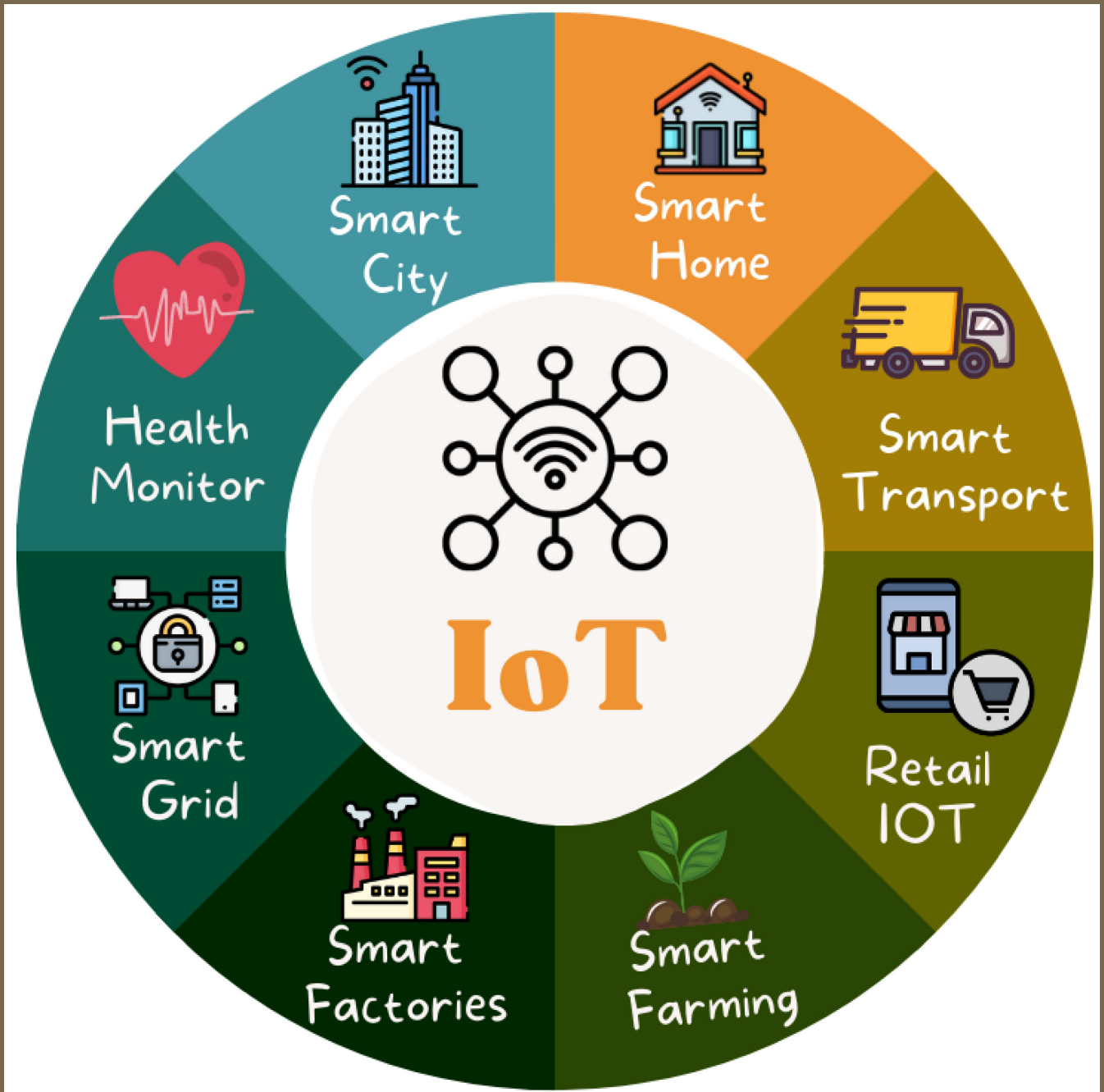


# KL TIMES

## The Kritilabs Newsletter



December 2024  
ISSUE #5



## GLOBAL HEADQUARTERS

#24A, SM Consortium,  
Dr. VSI Estate, Phase II,  
Thiruvannamiyur,  
Chennai – 600 041,  
Tamil Nadu, India.

## PHONE

+91 89399 88031

## EMAIL

contact@kritilabs.com

## WEBSITE

www.kritilabs.com

www.kritilabs.us

www.kritilabs.ai

## PUBLISHING TEAM

1. Dr. RV
2. Mr. Jason (HR)

## ABOUT KRITILABS TECHNOLOGIES

Kritilabs is a global leader in Digital Transformation and innovatively powered by AI and IOT with large scale implementations across a wide spectrum of Industries, with more than 10 global patents, and with many awards and recognition from "Who's Who" of Indian Industry including FICCI, CII, Nasscom, TIE Chennai, AIMO, Times of India et al.

# Message from Co-Founders



Dear Kritians

The year 2024 has been a very eventful year for us. Looking back, we have steadily empowered ourselves in various ways before we take off to new heights in 2025. At the start of the year, we were in the thick of implementing the BPCL project. This project has educated and empowered us in many

ways. One major lesson learned is that while designing a system, we have to take into account that our assumptions about user involvement and recommended Operating procedures for use of the system may not always be correct. Again, a customer's field of operations may not be quite as good in terms of infrastructure, as claimed, in the beginning of the project. Hence our design and deployment should take into account as far as possible these factors.

We had a successful strategy session with all high level executives and with participation of our advisors and other senior executives from the industry who were invited. The strategy was well enunciated at the high level and by senior executives as to what it means at each function level. But we lived up to the old adage that all strategies fail due to lack of execution.. This could be due to various reasons but one of the main reasons cited and which applied equally to us is that we are mostly reacting to external triggers rather than balancing our attention between long term goals and short term challenge mitigation. This means we have to learn to allot and monitor our time between short term challenges and long term capacity building.

We have also introduced the schedule of weekly meetings where we update on the weeks activities and plan for the next week. This is still work in progress in terms of deriving full benefit out of it. The original idea was that this would lead to transparency, efficient planning and tracking of project and routine activities undertaken in each functional department. This should not be treated as a mere reporting exercise, but to discuss the plan and progress as per the plan, the challenges one might face, and the innovative highlights that any team member has achieved and rest of us learning from that.

We hope with the addition of Vivek to the team, these meetings will be more enlightening with just the salient points of milestones achieved, challenges faced, and the productivity of our achievements coming up and long term strategies in these meetings

Our focus on sales and go to market with our products is providing results. A good pipeline of prospective clients has been built by our sales team with guidance from Saloni. Hopefully we will close some of these deals soon. This has also lead to our thoughts on products. Some of the learnings is that we need to take product development to its completion and make them ready for the market. Possibly we need product managers who will own the products and its features and ensure they are complete and comprehensive for showcasing to customers. This also means we need innovative ways of quick prototyping, mock screens, immersive experience for customers and understanding competition for competitive pricing.

Our expertise in AI and ML is showing up in our Video Analytics solutions. We have developed a number of use cases in surveillance, process and compliance but we should again build Dashboards, and command centers for monitoring and rapid response by Managers in charge to monetise these in the markets.

We have big aspirations and plans for 2025. They can be achieved by involvement, participation and ownership by all of us. We will meet in the new year to brainstorm on all those initiatives. Until then, have a great end-of -the-year celebrations to usher in the New Year 2025.

With best wishes for a great New Year.

# Message from the Editor



As we close the calendar year 2024, December becomes a time of reflection and celebration—a moment to acknowledge our successes, learn from our challenges, and set ambitious goals for the future. This year has been an extraordinary one for Kritilabs Technologies, marked by recognition, growth, and collaboration across various fronts.

We started the year with the CII National AI Award for KL, a very big recognition across the nation with so many companies competing. Our co-founders have been honored with several recognition for their thought leadership as well as contributions with Dr.L.N.Rajaram winning the Tamil Nadu Leadership award followed by our CEO, Srikrishna who was honored

with the prestigious "Young CEO of the Year" award by FICCI TNSC. Our co-founders and key leaders have been invited by various forums as speakers, panelists, steering committee members, member of board of studies delivering keynotes at CII, FICCI, SPIN Chennai, ACE International Pte (Singapore), shaping engineering syllabuses at Anna University and other forums. KL has been part of several showcase events in Digital Transformation, IOT and AI Conferences. During the year 2024, Kritilabs was recognized as one of the Most Innovative Companies of 2024 by Times of India (3<sup>rd</sup> in the list) and Dr.L.N.Rajaram was featured in the Cover page of the popular logistics & supply chain magazine called eCargoLog magazine which has a wide reach nationally. Dr LNR also was a key speaker at the CII National level IOT Conference in New Delhi during March 2024.

Besides this, Kritilabs has been featured in the International Journal of Innovative Technology and Creative Engineering ([www.ijitce.co.uk](http://www.ijitce.co.uk)), Railways Review Magazine (Multiple times) and has won the coveted spot in the Top 100 National Innovation Year Book 2024 in the Industrial Technology Section and Dr LNR's article has been published in FICCI Digital Transformation Knowledge Paper as well as presented to the IT Secretary of Govt of Tamil Nadu. In addition, KL has been honored with the #Time2Leap National Award for Best Technology Company of the Year - IoT at the MSME & Startup Innovation Summit - 4<sup>th</sup> Edition. This prestigious award is proudly supported by the Government of India and the Government of Odisha.

Kritilabs digital visibility and global popularity has improved quite substantially through various initiatives, contributions and awards and our global followers in LinkedIn has gone past the 5400 mark and it is our objective to touch 10K by the beginning of 2026. Many of our keywords rank in the first page in Google search and our backlinks and blogs have seen rapid growth, attention and engagement. Our domain rating has improved substantially as well.

Kritilabs is continuing to rapidly add value to Govt and Corporates, through our reach-out, partnering and implementation with Tamilnadu Govt's Greater Chennai Corporation (GCC), Railways (Multiple locations and multiple areas), Muthalagu Finance in Madurai, JioBP and the biggies like BPCL and IOCL. We continue to push for excellence and innovation with new product releases that solve industry problems uniquely and add value to clients and stakeholders in varied industries including Dairy. Our strategic partnerships with IGCAR, STPI, Anna University, IIT Madras, BOSCH, IBM and others continue to gather momentum and our US office has now a solid understanding of our product suite and already has a string of client leads waiting to implement our newly developed versions of the products. Our engagement with academia like S A College of Engineering (AI-ML Students visit to KL), IIT Madras for Interns during 2024 set the tone & will gather more steam with plenty more such initiatives in 2025.

It is not "all work". As part of health and fitness initiative, our teams are encouraged to go outdoor as part of team network events/games, indulging in healthy food and having a dose of good sleep in the night. We have a special section on "Health and Fitness" in this month newsletter. This fifth edition of the KL Times showcases a rich tapestry of contributions from across our organization. It reflects not only our achievements but also the collaborative spirit that defines Kritilabs.

We are already starting 2025 with a high-note as KL has been invited to the steering committee of the National AI Forum by CII AI Chairman & President of Microsoft India and South Asia.

Warm regards

Dr.RV

Editor, KL Times



## 1. Kritilabs Co-founder Dr.L.N.Rajaram delivers a keynote address at SPIN Chennai's Watts Humphrey Awards event 2024

Dr.L.N.Rajaram, one of the core founding members of SPIN Chennai delivered his keynote emphasizing the importance of Quality and Processes for a nation like India to become a global power in Products as well as Services. He also shared his personal experiences & learning with the father of Software Quality Dr. Watts Humphrey who was closely associated with SPIN Chennai between 2000 to 2010 until his untimely death in 2010.

Some photos from the event



## 2. Boom Barrier System for Greater Chennai Corporation(GCC) – Efficient Water Detection and Safety Alerts

An innovative boom barrier system has been installed for the GCC subway project, designed to detect water presence and enhance public safety. The system automatically opens and closes based on water levels, efficiently alerting the public with voice messages and LED display signs. This smart solution helps prevent accidents by providing timely alerts when water is detected in the subway there by enabling public safety.

## 3. Revolutionizing Agricultural Water Management – AAMS Inauguration by CTO Dr. Rajaram

In a significant breakthrough, M/s KritiLabs has developed an innovative Automated Aqua Management System (AAMS) designed to provide total management of watering systems



for agricultural purposes, greatly supported by R. Baskaran, our Strategic Advisor. This cutting-edge technology is poised to transform the way farmers manage water resources, enhancing efficiency, productivity, and sustainability. Further details can be found in Products and Engineering Section.

#### 4. Leadership Training

All Kritilabs senior leaders attended a half day workshop by senior consultants from the Industry Mr. Ravi Krishnamoorthy and Mr. Suresh Marur who are partners at SemcoStyle India LLP - an organization which believes that traditional corporate practices are outdated. There's a better way to build a high-performing organization while prioritizing the well-being of everyone involved, be it clients or employees. The future of work lies in people-centric organizations, and SemcoStyle is leading the change to bring about this transformation.



#### 5. Inaugural Address at a Global Conference with the theme “Current Global Transformation and Empowerment

Dr. Rajaram Venkat (Strategic Advisor, KL) delivered the 2<sup>nd</sup> day Inaugural Address at a global conference organized by ACE International Pte, Singapore

<b>ACE International Pte Ltd</b> <small>Singapore</small> <a href="http://www.aceinternational.com.sg">www.aceinternational.com.sg</a> Proudly celebrating the completion of 7 years & organizing Virtual International Conference on <b>Current Global Transformation and Empowerment: Challenges and Opportunities</b> & <b>Global Pioneer Leader / Global Young Leader Awards Event</b> <small>14 &amp; 15 December 2024</small> <small>10.00 AM - 5.00 PM Singapore Time / 7.30 AM - 2.30 PM India Time</small>			
Date	Time	Particulars of Speakers	Duration
15.12.2024	10.00 am SGT/7.30 am IST	Emcee will welcome and usher the audience with the ground rules to follow	5 minutes
15.12.2024	10.05 am SGT/7.35 am IST	Welcome Address by Dr. B. Ramanathan, Organizing Chair, Founder and MD, ACE International Pte Ltd, Singapore	10 minutes
15.12.2024	10.15 am SGT/7.45 am IST	Mega trends - Challenges and Opportunities - 2nd Day Inaugural Address by Mr. Dr. Rajaram Venkataraman, Strategic Advisor, Kritilabs Technologies Conventor, FICCI TNSC Technology Panel President, Software Process Improvement Network, Chennai, Mentor, Stanford SEED SPARK Program (South Asia)	15 minutes
15.12.2024	10.30 am SGT/8.00 am IST	Future of Indian Agriculture - Mr. Venky Ramachandran, Agritech Analyst, Consultant and Researcher, Hyderabad, Telangana, India	20 minutes
15.12.2024	10.50 am SGT/8.20 am IST	Reformation of Business - Mr. Balamurugan Sinnambathy, CEO, SB Production Sdn Bhd, Seremban, Malaysia	20 minutes
15.12.2024	11.10 am SGT/8.40 am IST	Emerging Business Opportunities - Mr. Mif Lion Durai Kandasamy, Managing Director, Neotouch India Pte Ltd, India	20 minutes
15.12.2024	11.30 am SGT/9.00 am IST	Tea break	10 minutes



#### 6. CII’s National level AI Forum invites Kritilabs to the steering committee

Kritilabs invited to be part of the steering committee of CII AI Conference happening in New Delhi in Feb 2025

Mr. Puneet Chandok is the President of Microsoft India and South Asia. He also heads the CII National AI Forum and serves as the Steering Committee Chairman of the National AI India Show 2025. He has invited Kritilabs to join the steering committee of the National AI India Show, scheduled for February 20<sup>th</sup> to 22<sup>nd</sup> at Pragati Maidan, New Delhi.

**First Steering Committee Meeting on AI India Show**  
20 December 2024 | 1600 to 1700 Hrs. | Virtual Platform- MS Teams

Dear Dr. Rajaram Venkataraman (kritilabs),

Greetings from CII!

It gives me immense pleasure to share that I have been entrusted with the responsibility of leading the Steering Committee for the CII Artificial Intelligence Exhibition and Summit (AI India) for the year 2024-25. Building upon the success of the previous AI India Shows in 2019, 2021, and 2023, CII is organising the fourth edition of the AI India Show, scheduled to take place from 20<sup>th</sup> to 22<sup>nd</sup> February 2025 at Pragati Maidan, New Delhi.

**This prestigious event will be held concurrently with the CII flagship event, the International Engineering and Technology Fair (IETF), bringing together the best minds in the field of AI and technology under one roof.**

The past editions of the AI India Show were met with remarkable success, featuring participation from countries like Germany, Finland, and the UK. We also saw robust engagement from global industry leaders, young Indian entrepreneurs (especially women-led startups), and key government bodies. The event became a platform where thought leaders, innovators, and decision-makers collaborated, ideated, and pitched groundbreaking innovations that are shaping the future of artificial intelligence. This year, as we strive to make the 4<sup>th</sup> edition even more impactful, I am writing you to invite your esteemed participation as a member of the AI India 2025 Steering Committee. Your expertise, insights, and strategic guidance would be invaluable as we work to elevate this summit and shape the future of AI together.

We look forward to your confirmation and request to join the first meeting of the Steering Committee scheduled **virtually** from **1600 – 1700hrs on 20<sup>th</sup> December**. **Please refer the 4<sup>th</sup> edition AI India Show 2024 brochure for your reference** : [Brochure-AI India Show 2025.pdf](#)

The virtual link for the meeting & agenda will be shared once we receive your confirmation to join the Steering Committee.

Best regards,  
Puneet

-----  
**Puneet Chandok**

Chairman  
CII National AI Forum, Steering Committee on CII AI India Show  
(Global AI Exhibition & Summit) And President, Microsoft India & South Asia

**Confederation of Indian Industry**

Prof. Lord SK Bhattacharyya Centre, 249-F, Sector 18, Udyog Vihar Phase IV  
Gurgaon-122015, Haryana, India, Email- [chairman.aiforum@cii.in](mailto:chairman.aiforum@cii.in)

## 7. Team Kritilabs BPCL Ennore Visit



<https://www.linkedin.com/company/kritilabs/posts/>



**KritiLabs Technologies**

5,492 followers  
1w • 🌐

+ Follow ...

Transportation challenges like theft and tampering are significant hurdles for businesses relying on secure logistics. Unauthorized access, pilferage, and lack of real-time monitoring not only disrupt operations but also lead to financial and reputational losses.

At **KritiLabs Technologies**, we address these challenges with innovative AI & IoT-driven solutions:

**Intellilock™**: A keyless, geo-fenced, and OTP-based smart locking solution, ensures only authorized access during transportation. It sends real-time alerts for tampering attempts, safeguarding your assets at every step.

**VAIOT™**: With AI cameras, we enable monitoring of operations, ensuring accurate tracking, preventing theft, and improving efficiency in your logistics chain.

With our solutions, businesses can streamline their logistics, ensure security, and boost operational efficiency.

💡 Want to know how we can transform your logistics operations? Visit <https://lnkd.in/gNhfuuZZ> for more information.

## SECURE LOGISTICS with Kritilabs



**KritiLabs Technologies**

5,492 followers  
2w • 🌐

🔍 Transforming Asset Management with IoT!

Managing assets securely and efficiently is a growing challenge for businesses. From keyless access to real-time monitoring and environmental safety, IoT solutions are revolutionizing how organizations operate.

We'd love to hear from you! Cast your vote and join the conversation.

#IoT #AssetManagement #Innovation #SecureTransportation #SmartSolutions #Technology

How do you ensure secure transportation of assets?

The author can see how you vote. [Learn more](#)

AI-powered cameras	21%
Real-time GPS tracking	53%
Tamper-proof locks	21%
Manual supervision	5%



## Upgrading to a Dedicated Ticketing Tool for Better Support

– Shared by Sam Richards

Providing excellent service is a priority for us, and we are taking steps to improve how we assist both customers and internal teams. As part of this effort, we have started using a specialized ticketing tool instead of email to manage inquiries. This is an initial step toward making our support more streamlined and organized.

### Why the Upgrade?

For a long time, email was our primary method of handling inquiries. While it served us well, as our needs grew, we began to face challenges:

1. **Scalability Issues:** Managing a growing number of inquiries through email became less practical.
2. **Tracking Problems:** It was harder to monitor the status of multiple issues effectively.
3. **Team Collaboration:** Coordinating among team members for support tasks was more challenging.
4. **Lack of Insights:** Email didn't provide detailed data to help us measure and improve performance.

To address these issues, we decided to explore a ticketing tool that is designed to handle support tasks more effectively.

### Early Benefits of the Ticketing Tool

Although we are still in the early stages, we are already noticing some positive changes:

1. **Organized Support**
  - ❖ Inquiries are logged as tickets, making it easier to keep track of and prioritize them.
2. **Clear Accountability**
  - ❖ Tickets are assigned to specific team members, ensuring responsibility for each issue.
3. **Improved Collaboration**
  - ❖ Team members can easily share updates and collaborate within the system.
4. **Automation Features**
  - ❖ Automated categorization and prioritization of tickets save time and reduce manual effort.

### Broadening the Scope

In addition to customer support, this tool will be used by our Tech Support, IT Tech Support, and Operations teams. This ensures that all technical, operational, and internal issues are handled with the same level of organization and efficiency. By having a centralized system, we aim to improve coordination across all support functions.

### Our Transition Process

Implementing a new system requires careful planning. Here's how we approached it:

1. **Understanding Our Needs**
  - ❖ We reviewed our challenges and chose a tool that matched our requirements.



## 2. Gradual Adoption

- ❖ We are introducing the tool gradually, ensuring minimal disruption.

## 3. Team Training

- ❖ Our team is undergoing training to make the most of the tool's features.

## 4. Keeping Customers and Teams Informed

- ❖ We have communicated with everyone about this change and how it benefits them.

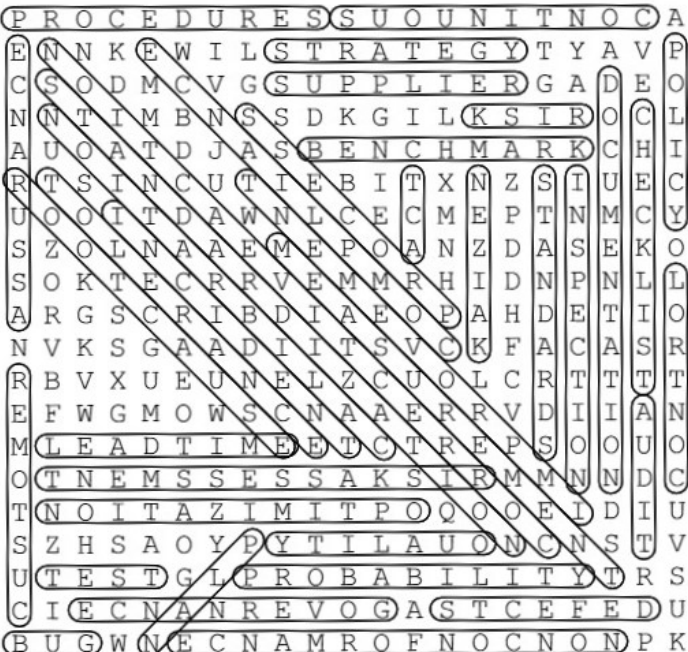
## What's Next?

As we continue to use the tool, we aim to refine our processes and make further improvements based on feedback and data. While we are just getting started, we are optimistic about the potential of this tool to enhance all areas of our support experience.

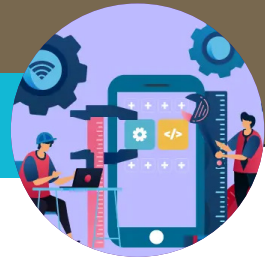
If you have any questions or feedback, please don't hesitate to reach out. We're here to help!

## Puzzle answer for november Quality sudoku

**KL**



1. Standardization   2. Inspection   3. Compliance   4. Customer   5. Supplier   6. Audit  
 7. Improvement   8. Risk   9. Documentation   10. CorrectiveAction   11. Standards  
 12. Measurement   13. Plan   14. Control   15. Defects   16. Benchmark  
 17. RootCause   18. RiskAssessment   19. BUG   20. Checklist   21. KAIZEN  
 22. Nonconformance   23. Optimization   24. Tolerance   25. Calibration   26. Probability  
 27. Assurance   28. Incident   29. Quality   30. Process   31. Strategy   32. Leadtime  
 33. Continuous   34. ACT   35. Test   36. Procedures   37. Policy   38. Governance



## Successful Demo of VAIOT based Security Solutions at SIS Security Services, Delhi

We are excited to announce the successful completion of a demo for SIS Security Services in Delhi, where we showcased our VAIOT based security solutions using visual analytics. The demonstration covered several critical areas, including intruder detection, crowd monitoring, loitering detection, fire hazard identification, camera tampering alerts, and visual changes detection. These capabilities are designed to enhance security, improve real-time monitoring, and ensure the integrity of surveillance systems. Special thanks to Tamilmaran, Anupama M, Jenish J, and Rahul for their dedication and effort in making this demo a success.

## Revolutionizing Agricultural Water Management: AAMS Inauguration by CTO Dr. Rajaram

In a significant breakthrough, M/s KritiLabs has developed an innovative Automated Aqua Management System (AAMS) designed to provide total management of watering systems for agricultural purposes, greatly supported by **R. Baskaran, Our Strategic Advisor**. This cutting-edge technology is poised to transform the way farmers manage water resources, enhancing efficiency, productivity, and sustainability.

- AAMS: A Comprehensive Solution

The AAMS system utilizes IoT-based water control technology to optimize water usage. Key features of the system include:

- ❖ Scheduled watering on a daily or weekly basis
- ❖ Automatic cut-off in case of under-watering
- ❖ Uniform flow of water to all plants
- ❖ Remote switching through a mobile app
- ❖ Surplus water recycling to the same source of water
- ❖ Fish breeding and other applications

- Water Conservation through Recycling

AAMS also incorporates a water conservation mechanism, enabling the recycling of washbasin or bathing water. This innovative feature reduces water waste and promotes sustainable practices.

- Successful Prototype Launch

A prototype of AAMS was inaugurated at a client's location by Dr. Rajaram, MD, KritiLabs, on December 11, 2024. The system has been functioning satisfactorily, and KritiLabs plans to launch AAMS as a product in January 2025.



- Future Developments and Scalability

Future enhancements to AAMS include the integration of video cameras for continuous monitoring and AI-based analytics for fault indication. The system is also scalable for use in various settings, such as:

- ❖ Balconies and roof gardens in urban areas

Modified versions of AAMS for these applications will be launched shortly by KritiLabs

### Boom Barrier System for Greater Chennai Corporation(GCC): Efficient Water Detection and Safety Alerts

An innovative boom barrier system has been installed for the GCC subway project, designed to detect water presence and enhance public safety. The system automatically opens and closes based on water levels, efficiently alerting the public with voice messages and LED display signs. This smart solution helps prevent accidents by providing timely alerts when water is detected in the subway there by enabling public safety. Kudos to the team, Rahul Prasath, Arun, and Tamilmaran T for their hard work and dedication in completing this proof of concept in a short span of time.



### Blue Parrot Asset Management Solution: Secured with RFID Technology and Smart Seals



We recently demonstrated an asset management solution for Blue Parrot, leveraging RFID technology for real-time tracking and monitoring. The system enhances security by using ALS Lock Seal, ensuring that assets are protected from tampering and theft. This innovative approach provides seamless asset visibility and improves operational efficiency, offering Blue Parrot a robust and secure solution for managing their valuable assets

### Smart Milk Quality Analysis with KritiLabs IoT-based Solution for MILMA

KritiLabs has successfully demonstrated its cutting-edge IoT-based Milk Analyzer, designed to ensure the highest standards of purity and quality for MILMA products. MILMA, a renowned dairy cooperative, is dedicated to providing fresh, pure, and nutritious milk and dairy products to consumers across the region.

KritiLab's real-time milk analysis solution continuously monitors key parameters such as fat content, protein levels, and overall freshness. Additionally, it detects any adulteration, such as water content, ensuring that only the purest milk reaches consumers. With its advanced technology, the Milk Analyzer offers an efficient and reliable way to monitor milk quality, helping MILMA maintain its commitment to excellence and customer satisfaction



## Certification Spotlight

We are thrilled to announce that **Mr. Sriram** has successfully completed and cleared the **"SOLIDWORKS Drawing Tools Professional"** certification. This achievement not only showcases his technical expertise but also highlights his commitment to continuous learning and excellence in the design field. It is a well-deserved recognition in the global design community, and we congratulate him on this outstanding accomplishment!



## Events and Participation

### Exploring Future Tech at EFY Expo 2024: Insights & Innovations

Our team attended the EFY Expo 2024, held in December 2024 at the Chennai Trade Centre, where we explored the latest advancements in electronics, automotive, and IIoT technologies. The event provided an excellent platform for engaging with industry experts and gaining insights into emerging tech trends. We're excited to apply these learnings to enhance our future projects and innovations! The expo also offered valuable networking opportunities and showcased transformative ideas that will influence the next wave of technological growth.



### Mentoring at Smart India Hackathon 2024: A Remarkable Experience

Rahul from Firmware had the honor of participating as a UI/UX Design Mentor and Jury Member at the Smart India Hackathon 2024 - Hardware Edition. Drawing from his experience as a past SIH winner, he guided teams, evaluated innovative ideas, and provided technical support to the next generation of innovators. His presence at the event showcased his dedication to fostering creativity and empowering young minds. Rahul's contribution reflects his commitment in implementing and delivering new tech advancements here at KritiLabs

## Spotlight Chronicles

### "Unlock the Future: December month Electronics for You (EFY) Magazine is Here!"

The December Edition of EFY Magazine has arrived! Packed with the latest in electronics and innovation, it's your gateway to fresh ideas and trends.

Find it in the S&M Consortium Building, Second Floor Library. Don't miss the chance to explore—happy reading!



## Exploring AI and Technology in Pop Culture: Movies to Watch

### 1. Ready Player One (2018)

**Synopsis:** Set in a dystopian future, this film follows a teenager on a quest to find a hidden Easter egg in a virtual reality universe, where the winner will inherit the fortune of the VR game's creator.

**Why Watch:** A thrilling and visually stunning take on virtual reality, gaming, and digital worlds. It's a captivating exploration of a digital future.



### 2. Gattaca (1997)



**Synopsis:** In a future society where genetic engineering determines one's life path, a man born naturally defies the odds to pursue his dream of space exploration.

**Why Watch:** A thought-provoking exploration of genetics, technology, and social hierarchy, asking questions about the ethics of genetic modification.

## Celebrating Our Team: Birthday Spotlight

**Name:** Poornima.R

**Name:** Freema.P

**Department:** Firmware

**Department:** Firmware

**Date:** 19<sup>th</sup> December

**Date:** 18<sup>th</sup> December

Wishing Poornima R and Freema P a very happy birthday! May this year bring you success, joy, and new achievements in both your personal and professional life!

## NewsFlash Central

### Breakthrough in Smell-Sensing Technology

Researchers from the Norwegian University of Science and Technology have developed an innovative antenna coated with graphene oxide and Nafion, capable of sensing odors across a 1 to 8 GHz frequency range. This technology can identify various alcohols and even differentiate between fruits based on emitted chemicals. With potential medical applications, it could one day be used to detect diseases through volatile organic compounds, similar to how trained dogs detect blood sugar changes or cancer. This breakthrough repurposes existing antenna technology for new, impactful uses.



### Wrapping Up 2024: Christmas and New Year Wishes



As we reflect on the incredible journey of 2024, we extend our warmest wishes to our team, partners, and supporters. This year has been filled with growth, innovation, and success, and none of it would have been possible without your dedication and collaboration. As we embrace the holiday season, may you find joy, peace, and happiness with your loved ones. Here's to an even brighter 2025, filled with new opportunities, achievements, and continued success. Merry Christmas and a Happy New Year!



## Journey from Design to Deployment

In today's competitive market, the key to success lies not only in the technology we use but in the commitment of the people behind it. At our Electronic Production Department, we are proud to combine skilled craftsmanship with practical solutions to create high-quality **Smart Locks**. While we may be a small-scale industry, our dedication to excellence and precision sets us apart.

### From Concept to Creation: A Collaborative Process

- The journey of our Smart Locks begins with close collaboration between the **R&D Engineering team** and the **Production Department**. Once the R&D team finalizes a design, it is passed to us to turn that idea into reality. Every detail is carefully considered, ensuring that the design is both functional and feasible for our production processes.
- What makes our approach unique is the **contribution of our employees**. Our skilled workforce plays a crucial role in maintaining high standards during assembly, particularly with tasks like soldering and component fitting. We may not have cutting-edge automation, but what we lack in advanced machinery, we make up for with the **dedication and expertise** of our team.

### Quality Through Skill and Perfection

- Our production line relies on basic yet effective tools—**manual soldering stations, Tools, Equipment's and testing jigs**—all operated by highly trained employees. Through hands-on experience and attention to detail, we ensure that each Smart Lock is assembled to perfection.
- To achieve skilled employees, we focus on **Training & Development** initiatives. One such training session was conducted in October, featuring sessions that involve how to service the lock effectively. These sessions included explaining the workflow and providing video resources that detail the service process. Each participant receives process files to read, helping them understand the intricacies of their job. With mentor guidance and opportunities for interaction, employees can clear any doubts and enhance their skills.
- Our employees take great pride in their work, and this commitment shows in the **reliability and quality** of the final products. By focusing on precision at every stage, from component placement to final assembly, we can deliver products that meet the highest expectations of our customers.
- Every Smart Lock undergoes **rigorous testing**, including manual inspections and functional tests, to ensure durability and consistent performance. Our goal is simple: deliver a product that works flawlessly from the moment it reaches the customer's hands.

### Customer-Centric Approach: Tailoring Products to Needs

- At the heart of our production is a clear focus on **customer satisfaction**. While we always strive to provide excellent products, we also understand that not every customer's needs are the same. We are flexible when it comes to product design and customization. If specific requirements arise, whether for security features or design modifications, we work closely with our clients to deliver solutions that meet their needs.
- We may not constantly roll out new features or radically upgrade designs, but we believe in refining what works. **If improvements are necessary**, they are made thoughtfully and based on direct customer feedback, ensuring that the upgrades truly enhance the product's value.

## Looking Ahead: Commitment to Delivering Quality

- As we look to the future, our goal remains steadfast: to continue producing **reliable, high-quality Smart Locks** that serve our customers well. We will always prioritize customer requirements over unnecessary changes, focusing on delivering practical and dependable solutions.
- While our designs may not change drastically, we take pride in offering products that are thoughtfully engineered, thoroughly tested, and built to last. **Innovation** for us is not about chasing trends, but about maintaining a strong foundation of quality and service. Should new requirements emerge, we are ready to adapt and tailor our offerings accordingly.

## Conclusion: Perfection Through Dedication

- Our Smart Locks are more than just products—they reflect the hard work, skill, and dedication of our production & Quality team. By combining the expertise of our employees with careful attention to customer needs, we can deliver **trustworthy solutions** that meet the demands of the market.
- In our small-scale industry, it is the human touch and commitment to **perfection** that set us apart and enable us to consistently provide reliable, high-quality products to our valued customers.

## Innovation in Action: Tackling Motor Vibration Issues in ILBEX Production

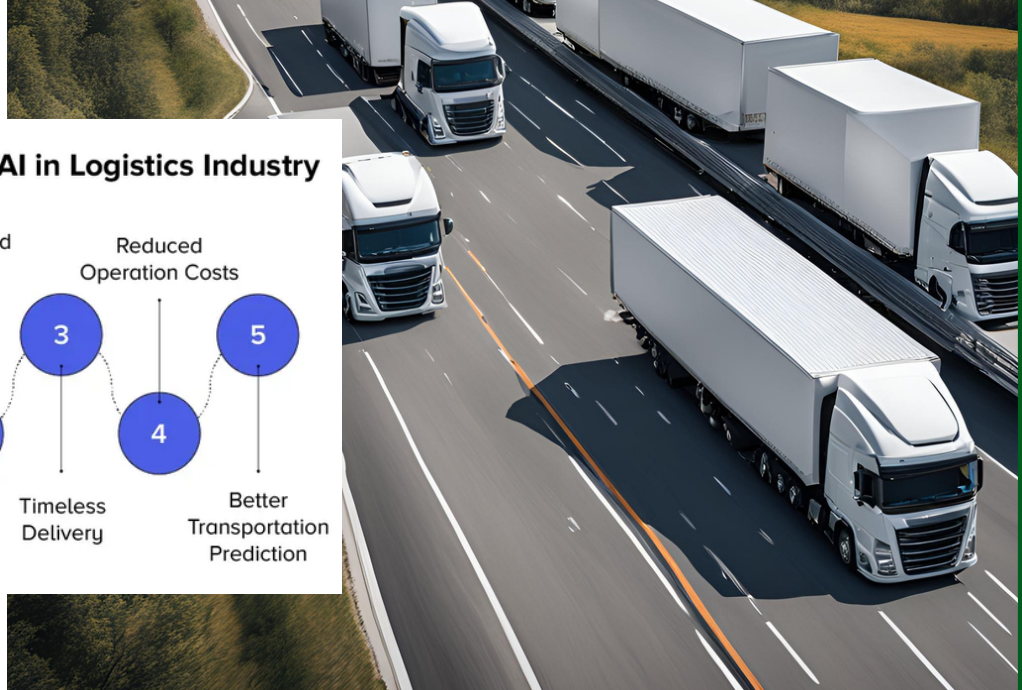
At Kriti labs, innovation and quality improvement are at the heart of everything we do. Recently, our Electronic Production department, along with the Quality team, faced a significant challenge with our ILBEX product: persistent vibration issues in the motor. This problem not only affected the product's performance but also increased motor rejections, leading to higher costs.

However, true to the spirit of continuous improvement, two of our employees, Maarimuthu and Muthu, stepped forward with a proactive approach. Recognizing the need for a solution, they re-engineered the motor's functioning process to eliminate the vibrations. Their innovative solution provided a successful rework method, ensuring smooth motor operation without compromising product quality.

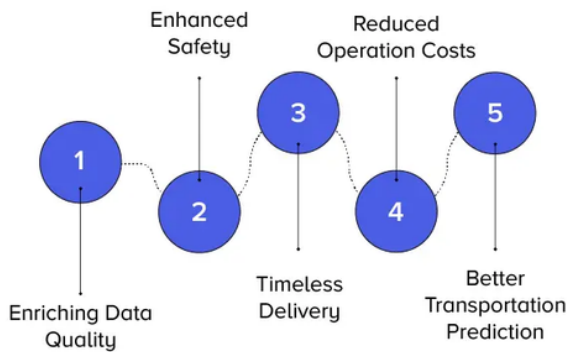
The impact of this solution was immediate and tangible. By implementing their process, we significantly reduced motor rejections and cut costs by avoiding the need to procure replacement motors. This improvement not only boosted efficiency but also contributed to the overall quality of our ILBEX product.

In recognition of their outstanding contribution, we proudly awarded Maarimuthu and Muthu with gift cards, acknowledging their initiative and dedication to solving this issue. Their efforts exemplify how employee-driven innovation can have a lasting impact on production processes and quality outcomes.

At Kriti labs, we encourage and support such initiatives that drive innovation and excellence. This success story is a testament to the collaborative and problem-solving culture we foster within our teams. We look forward to seeing more such creative solutions emerge from our Production and Quality departments as we continue our journey of delivering top-tier products.

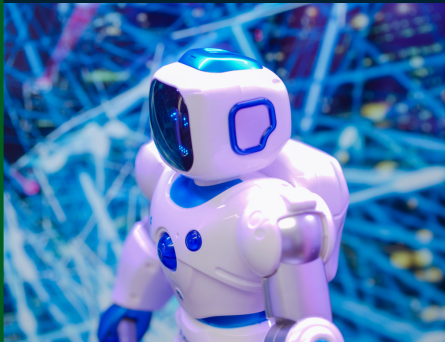


## Advantages of AI in Logistics Industry



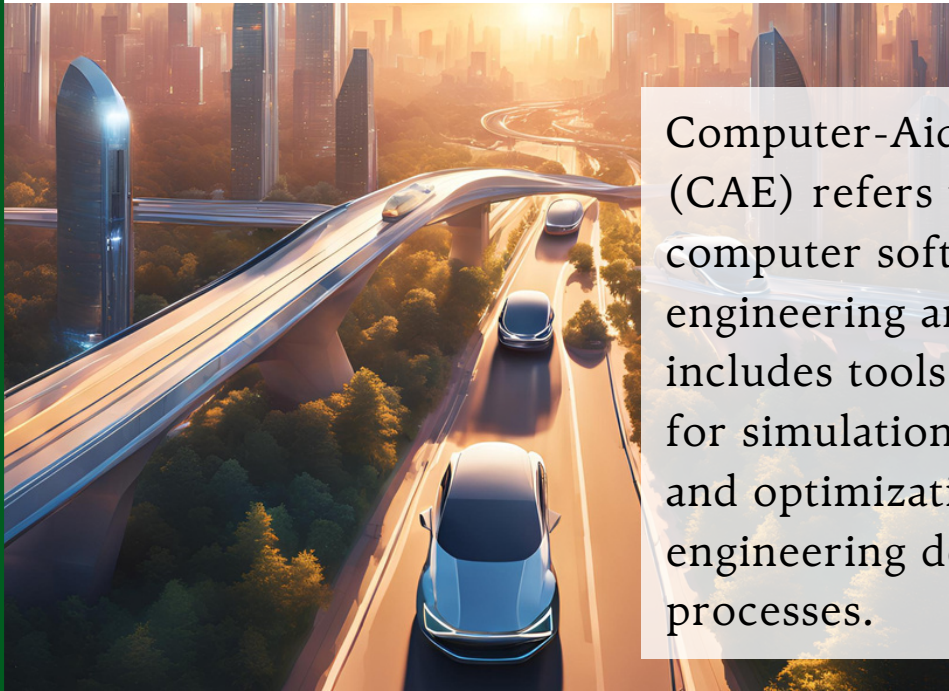
## The future of AI in Fleet Management & Logistics

### The Rise of AI in Business



In logistics, AI will play a crucial role in optimizing the routes of delivery trucks, reducing fuel consumption, and improving delivery times. AI can dynamically adjust routes based on real-time traffic conditions, weather patterns, and other factors, increasing the efficiency of supply chains.





Computer-Aided Engineering (CAE) refers to the use of computer software to aid in engineering analysis tasks. It includes tools and methods for simulation, validation, and optimization of engineering designs and processes.

## Applications of CAE in Logistics

- Optimized Vehicle Design
- Fuel Efficiency and Cost Reduction
- Maintenance and Reliability
- Enhanced Safety
- Fleet Performance Optimization.
- Environmental Sustainability
- Cost Savings

## The Future of Engineering





## Top companies that use CAE



## Innovating Engineering: How AI is Transforming CAE

- Faster Simulations and Real-Time Insights
- Generative Design: Unlocking Innovation
- Predictive Maintenance for Enhanced Reliability
- Automation and Workflow Optimization
- Digital Twins and Sustainability in Engineering

### How AI-Driven CAE Will Change the Future of Transport

AI is reshaping transportation through smarter designs, better electric vehicles. It improves infrastructure planning for safer transit and ensures smooth operations with predictive maintenance. The future of transport is smarter, greener, and more efficient with AI.



Designed by  
Dhakshana Moorthy



## Professional Experience

I am **Gunasekar R**, bringing over **17 years** of industrial experience in designing and managing the lifecycle of 50+ products, from concept to market launch, across diverse domains and advanced technologies. Throughout my career, I have contributed to multiple organizations by delivering innovative solutions that seamlessly integrate creativity, practicality, and advanced engineering principles.

At **KritiLabs Technologies**, I currently **Head the Products and Engineering** division, focusing on developing **AI<sup>2</sup>OT** solutions integrating artificial intelligence and machine learning to create smarter, more efficient systems.

## My Journey

From an early age, a deep curiosity and a determination to address real-world challenges have shaped my professional journey. My fascination with understanding "how things work" has driven me to explore innovation, both as an enthusiastic tinkerer and a committed professional.

## Exploratory Projects

Some of my earliest achievements stem from a passion for exploration and experimentation:

- **Microprocessor Design:** During my college years, I designed and developed a fully functional microprocessor using only logic gates, translating theoretical concepts into a practical, working model executing multiple mnemonics, utilizing multiple Program decoders thereby doubling the processor speed without increasing clock speed.
- **Pioneering Engine Efficiency:** converted 4-stroke engine bike into an efficient 6-stroke engine bike, by altering the Cam, Timing chain, and many other parts which significantly enhanced fuel efficiency, which was live and fully operational.

## Industry Contributions

My professional journey spans various technologies such as digital electronics, power electronics, and IoT, resulting in impactful solutions across industries. Some of which are listed below,

- **Musical Technology Ahead of Its Time:** Designed and Managed, **Handheld electronic Musical Book**, designed for learners and professionals, long before the Android era. This innovative tool integrated Ragas, Talas, Suruthi and musical notations, providing a platform for exploring music effortlessly.
- **Elevator Safety Innovation:** Designed and developed an **Automatic Rescue Device (ARD)** for hydraulic elevators, ensuring seamless functionality and safety during power outages. Widely adopted by elevator manufacturers, this solution is a benchmark for reliability and safety.
- **Securing Software Integrity:** Designed and developed **hardware-secure keys** to prevent the cracking of software, safeguarding intellectual property and enabling ethical software practices.
- **Rin Process Monitoring System:** For Hindustan Unilever, I developed a Process Monitoring System that monitor the production efficiency of Rin Products. Leveraging sensors and IoT, this system optimizes manufacturing processes and enhances product production time.

These achievements reflect only a few of my contributions over the years. Each milestone has sharpened my skills, enriched my perspective, and fuelled my relentless pursuit of innovation. Whether through personal projects or professional endeavors, I remain committed to engineering solutions that make a meaningful impact.

### Strategic Leadership

I actively contribute to high-level decision-making and strategic planning while fostering a collaborative, innovative work environment. Beyond my corporate role, I serve as a **Board Member for Anna University's Board of Studies**, where I help shape curricula for emerging disciplines in BE and BTech, aligning academia with industry demands and fostering innovation in future engineers. It's a privilege to be part of shaping the future of education in these fields

### Continuous Learning

To strengthen my leadership capabilities and strategic vision, I am currently pursuing the **Chief Technology Officer (CTO) Program at the Indian School of Business (ISB)**, Hyderabad. This program equips me with cutting-edge insights into technology management and business innovation, enabling me to lead in today's dynamic technological landscape.

### Passion for Technology

Technology has been my passion since childhood. My curiosity about the "why" and "how" of the world around me fuels my innovative

thinking and problem-solving approach. I firmly believe that passion for one's work naturally creates balance, making work an integral and fulfilling part of life.

### Latest News

#### Shaping the Future of Education: Stakeholders Meeting at Madras University

On December 11, 2024, I had the honor of being invited to a meeting organized by the **Tamilnadu Government's Ministry of Higher Education** at Madras University. The event brought together industry experts and academic leaders to address critical aspects of curriculum design, development, and delivery.

The discussions aimed to bridge the gap between academia and industry, ensuring that students are equipped with the skills necessary to thrive in the professional world. The meeting was presided over by **Dr. Govi Chezhaan**, the **Hon'ble Minister for Higher Education**, with participation from ACS-HED and the Vice Chancellor of TANSCHÉ. This initiative represents a significant step toward aligning academic programs with industry needs.

### Optical illusion puzzle answer for november





## Fun N Learn

— Shared by Meenakshi HR manager

There was a lady who was heating up a pot of water to cook pasta for her family. While she was busy preparing, a frog accidentally fell into the pot. Since there was still no flame, the frog didn't try to escape and was comfortably lying inside the pot.

Soon, the lady turned on the flames to boil the water. Still, the frog stayed inside the pot since he can accordingly adjust his temperature.

When the water approached its boiling point and the frog couldn't keep up with the heat, he attempted to jump out of the pot. However, he was unsuccessful and was too late to save himself.

### **Moral of the Story:**

No matter how light or critical a situation may be, it is very important to have a proactive mindset. The frog had all the chance to escape the pot if only he looked at the bigger picture. But because he was too complacent, he wasted the time he had until it was too late to take action.

Once there was a mother and a baby camel lying around. Suddenly, the baby camel asked her mother why they have humps. The mother answered and told him that since they are desert animals, their humps are used to store water.

The second question that the baby camel asked was why are their legs long and their feet rounded. The mother camel replied that their legs and feet are meant for walking in the desert. Having these can make moving around the desert easier!

The baby asked another one about why are their eyelashes long. It bothers him sometimes, he said. His mom said that their long lashes are for protective cover. Since the desert sand and wind can affect their sight, their lashes will protect them from it.

After thinking for some time, the young one summarized what he learned and asked the mother camel what they are doing in a zoo then.

### **Moral of the Story:**

Being in the right place at the right time is very essential. You can benefit from your skills, knowledge, and experiences — but only if you are in the right place.



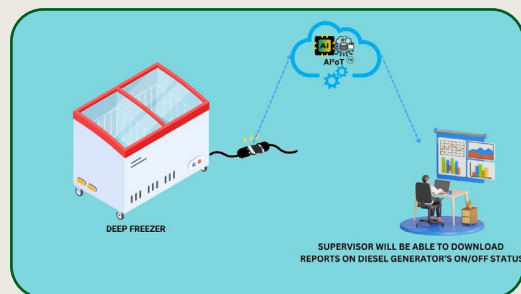
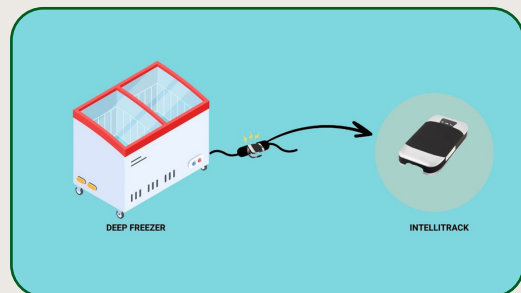
## Revolutionizing Dairy Logistics with KritiLabs' Smart Solutions

The dairy industry operates on the backbone of a robust supply chain, ensuring fresh and high-quality products reach millions daily. To meet this challenge, KritiLabs Technologies has emerged as a pivotal partner, offering state-of-the-art IoT-based solutions for asset and logistics management. From deep freezers to milk vans, KritiLabs is redefining efficiency, security, and accountability in dairy logistics. Here's how:

### Deep Freezer Management: A Game-Changer in Cold Storage

Deep freezers are critical for preserving dairy products at retail and distribution points. Managing thousands of these assets across vast geographies can be daunting. KritiLabs' **IntelliTrack** provides a smart tracking and monitoring solution that ensures optimal operation and security:

- **Plug-and-Play IntelliTracker Devices:** Seamlessly attached to deep freezers, these devices monitor real-time location and operational status.
- **AI<sup>2</sup>oT™ Platform:** Supervisors can remotely track freezer usage, receive alerts for unauthorized movement, and access actionable analytics.
- **Scalable Solution:** Easily accommodates expanding asset bases, supporting operational growth.

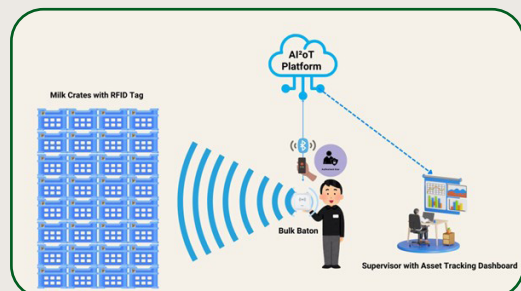
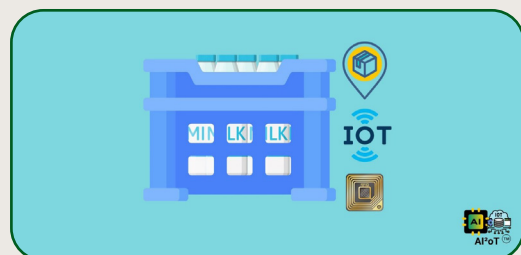


With features like movement alerts, remote diagnostics, and predictive maintenance, KritiLabs' solution ensures reduced downtime, asset security, and improved operational oversight.

### Milk Crates Asset Management: Ensuring Traceability

Milk crates are vital in transporting milk from processing plants to distribution centres and retail outlets. However, tracking their movement and usage has historically been a challenge. KritiLabs' smart asset management solution leverages RFID tagging to:

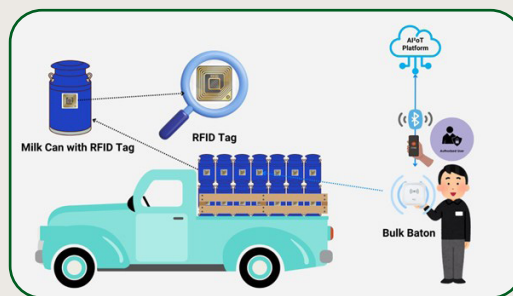
- Track crate locations in real-time.
- Monitor usage patterns to optimize asset allocation.
- Provide tamper-proof audit trails for accountability.



## Milk Cans Asset Management: Digitizing Rural Supply Chains

In rural dairy operations, milk cans play a crucial role in collecting milk from farmers and transporting it to processing units. KritiLabs' IoT-driven solution for milk cans enables:

- **RFID Integration:** Ensures unique identification and tracking of cans.
- **Usage Analytics:** Provides insights into handling and lifecycle management.
- **Operational Alerts:** Flags irregularities, such as unauthorized handling or prolonged inactivity.



This solution ensures that milk cans are efficiently utilized and safeguarded, fostering trust among stakeholders in the supply chain.

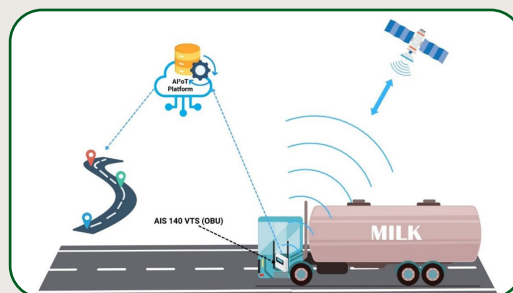
## Tracking Milk Vans and Trucks: Enhancing Fleet Management

Timely delivery of milk and dairy products is essential for maintaining freshness. KritiLabs' vehicle tracking solution, powered by AIS 140-compliant devices, addresses this need:

- **Real-Time Location Tracking:** Monitors vehicle routes and ensures adherence to schedules.
- **Route Deviation Alerts:** Flags any deviations, reducing risks of delays or unauthorized stops.
- **Integrated Dashboard:** Offers a centralized view of fleet performance, enabling data-driven decision-making.



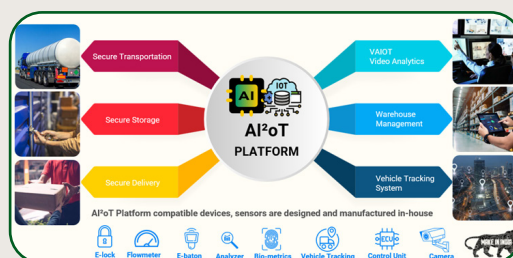
By optimizing logistics operations, KritiLabs helps reduce fuel costs, improve delivery reliability, and enhance customer satisfaction.



## Why KritiLabs?

KritiLabs' solutions are built on its patented AI<sup>2</sup>oT™ platform, which seamlessly integrates IoT devices with advanced analytics to deliver actionable insights. With a "Make in India" commitment, KritiLabs ensures that all its products are indigenous, high-quality, and globally competitive.

Operating across over 200 cities and managing more than 45,000 devices, KritiLabs stands as a trusted partner for the dairy industry. Our solutions not only address inefficiencies but also foster sustainability, accountability, and growth.



## Driving the Future of Dairy Supply Chains

From monitoring deep freezers to ensuring the traceability of milk crates and cans, and tracking milk vans, KritiLabs is transforming dairy logistics with cutting-edge technology. As the dairy sector continues to evolve, KritiLabs remains at the forefront, ensuring freshness, efficiency, and reliability in every drop of milk delivered.



## AI in 2025: From smartphones to society, how will AI reshape the world?

**Business Today article by** Lakshay Kumar

**Shared by** Dr. Rajaram Venkat

AI will almost certainly still be the biggest tech topic in 2025. It will become even more a part of our lives, at work, in school, at the hospital, and at home.

As AI gets more powerful, it's more important to think about the ethical problems it creates for people and society. We still have many questions: How will it change jobs? Will it stop people from being creative? And how does collecting lots of personal information to train AI affect our privacy online?

By 2025, AI is also expected to play a central role in devices, industries, and society as a whole. From personalizing our gadgets to reshaping how we search for information, AI's influence will be felt across every aspect of daily life. The advancements on the horizon signal a shift from novelty to necessity, setting the stage for a smarter and more connected future.

### Smarter Phones with GenAI

By 2025, around 30% of all smartphones will have generative AI, or GenAI, which lets phones personalise the way they work for each user. Tarun Pathak, Research Director, Mobile Devices and Ecosystems at Counterpoint Research explains, "People will enjoy more personalised experiences with their devices." This means that instead of focusing on things like camera quality or battery life, phone makers will compete to offer the best personalisation features.

GenAI is already helping with tasks like writing and editing documents. But by 2025, people will use it even more for things like creating images or using voice commands. Prabhu Ram, VP - Industry Research Group (IRG), CyberMedia Research (CMR) adds that while in 2024 most people chose phones for things like storage and design, by 2025, AI will be a key feature, even in less expensive phones. It will help people be more creative and communicate more easily.

### AI's Impact on the PC Market

The influence of AI isn't limited to smartphones. The global laptop market is set to grow by 5% year-over-year in 2025, driven by an AI-driven replacement cycle. According to Pathak, "Emerging use cases in PCs, particularly within enterprise and commercial sectors, will play a significant role in this growth." Laptops with GenAI capabilities will cater to increasingly demanding applications, from automated workflows to advanced analytics, solidifying their role in professional settings.

### Semiconductors: The Backbone of AI

The semiconductor industry is poised to see substantial growth, more than doubling in content over the next few years, thanks to the rise of GenAI. Pathak explains, "This growth will largely be driven by on-device GenAI adoption, preferred for its privacy benefits." Purpose-optimised large language models (LLMs) and micro-AI models for edge devices will become essential, enabling real-time processing without compromising user data.

Edge AI, which focuses on processing data locally rather than in centralised data centres, is expected to gain prominence. This shift will not only enhance data privacy but also reduce latency, making AI applications faster and more efficient for end users. The growing emphasis on semiconductors highlights the foundational role hardware continues to play in enabling AI advancements.



## From AI Helpers to AI Doing It All

Right now, AI works as a copilot, an assistant that helps with tasks like writing emails or finding information. However, in 2025, a key shift in the AI landscape will be the transition from AI copilots to autonomous agents. These agents will perform complex tasks with minimal human intervention, such as scheduling meetings or purchasing goods online. However, as Pathak emphasises, "Responsible AI and regulatory frameworks will gain prominence, ensuring these systems operate ethically and transparently."

## AI and Extended Reality (XR)

While the rise of AI may appear to overshadow extended reality (XR) technologies, Pathak argues that it will serve as a catalyst rather than a competitor. "Major XR players such as Meta, Apple, and Samsung continue to show faith in the long-term prospects of the technology," he notes. For instance, Meta has already integrated AI into its smart glasses, and Samsung is likely to follow suit with its upcoming headset.

AI's role in XR goes beyond simple integration. It enhances the user experience by enabling features like real-time language translation, gesture recognition, and personalised virtual environments.

## Information Search: From Search to Seek

Ram also predicts a transformative shift in how consumers access information by 2025. He notes that "AI advancements are expected to drive a shift from passive 'search' to active 'seek.' Traditional search engines like Google may see a decline as AI-powered platforms such as Perplexity gain traction. Consumers increasingly demand instant, concise, and synthesised answers, eliminating the need to sift through vast amounts of content. This shift underscores the growing preference for efficiency and precision in digital interactions.

## What's Next for AI?

Several trends will shape AI in 2025:

- **Apps Built for AI:** Applications built natively with AI at their core will solve problems and offer unique experiences.
- **Collaborative AI Agents:** Systems comprising multiple AI agents with varying levels of expertise will enable more sophisticated and coordinated actions.
- **GenAI for content creation:** The use of AI for creating content, particularly video, is expected to surge, offering new avenues for creativity and communication.
- **AI Everywhere:** Beyond phones and laptops, AI will be in smartwatches, home devices, and even cars.

## The Future is AI

AI is changing how we live and work. By 2025, it will play a key role in devices, jobs, and even how we search for information. But with this power comes responsibility. As Pathak puts it, "AI is a tool to transform our world. Its success depends on using it wisely and fairly." Policymakers, companies, and users all have a role in making sure AI benefits everyone.



## 13 Ways to Improve Your Health - wikiHow

### —Shared by Dr. Rajaram Venkat

Improving your health is an awesome goal, but there are so many factors to consider. Where do you start? Don't worry—we've done the research and compiled a list of tips and tricks you can use to starting improving your health today. Many of these are ideas are super easy to incorporate and even small changes can make a big difference!

- 1. Exposure to natural environments may lower stress and prevent illness.** Can it really be that simple? Research is ongoing, but scientific studies do indicate that spending time in nature can actually improve your health. There's no wrong way to do this—take walks, hit the local trails, go fishing, visit a park or arboretum, or start a garden in your own backyard. Even sitting quietly outdoors is beneficial! The key is just to get out there and enjoy nature as often as you can
- 2. Your gut plays a crucial role in your health and well-being.** Disruptions and imbalances in gut bacteria have been linked to serious health problems like inflammatory bowel disease, obesity, diabetes, and cancer. Taking probiotics can help restore balance by introducing doses of "good bacteria" into your gut. Research is ongoing, but potential benefits include improved immune system function, better digestion, and more.
  - ❖ Probiotics contain different strains of bacteria, so it may take some trial and error to figure out which strains benefit you the most.
  - ❖ You shouldn't take probiotics if you have a compromised immune system. If you have a serious health condition, talk to your doctor before trying probiotics.
  - ❖ There's evidence that gut health may influence your mental health, too. Taking probiotics could potentially help with issues like anxiety and depression
- 3. Consume Fresh herbs**

**Eating herbs may protect you from illnesses like cancer and diabetes.** Fresh herbs are rich in antioxidants and boast countless other potential health benefits. Best of all, they're delicious and easy to add to your favorite salads and dishes. To enjoy the most benefits, consume the freshest herbs you can get your hands on. Dried herbs are less potent, but they provide health benefits, too!

  - ❖ Fresh garlic, fenugreek, and lemongrass may help lower cholesterol. Garlic may also lower blood pressure.
  - ❖ Fresh onions, chives, leeks, mint, basil, oregano, and sage may help protect against cancer.
  - ❖ Rosemary, sage, and oregano contain high levels of antioxidants
- 4. Eat a Healthy, balanced diet**

**Focus on nutrient-rich foods within each food group.** A healthy diet boosts your energy, helps you maintain a healthy weight, and lowers your risk of heart disease, diabetes, and cancer. Aim to eat a balance of whole grains, lean protein, fruits, veggies, and dairy products every day. Variety is also important! Try new foods and change up your weekly meals so your body gets all the nutrients it needs. A few helpful tips to get you started:

  - ❖ Bring easy, portable snacks like nuts, bananas, and baby carrots with you to work or school.

- ❖ Plan your meals for the week ahead so healthy options are always within reach.
- ❖ Prioritize foods that are high-fiber, low-sugar, and low-salt.
- ❖ Reach for healthy fats in foods like fish, nuts, and avocados.
- ❖ Leafy greens like kale, broccoli, and cabbage are packed with nutrients.
- ❖ Avoid saturated fats, hydrogenated oils, refined sugar, and processed foods.
- ❖ Be sure to check nutrition labels for serving sizes; proper portioning is important, too

## 5. Drink plenty of fluids

**Fluids keep your entire body functioning properly.** Water is the healthiest option, but juices and water-rich foods like soups, fruits, and vegetables are good, too. If you're struggling to get enough fluid every day, try using bigger glasses (fill them up completely every time), drinking with a straw, and carrying a thermos or refillable bottle with you to work or school every day.

- ❖ How much fluid you need every day depends on factors like your height, weight, activity level, but in general:
  - \* Males need 15.5 cups (3.7 liters) of fluids a day
  - \* Females need 11.5 cups (2.7 liters) of fluids a day

## 6. Sleep 7 to 9 hours every night

**Go to sleep and wake up at roughly the same time every day.** Getting in enough hours every night is important, but a consistent sleep pattern is also crucial because it helps your body and mind sync up. You'll feel and perform your best if you work with your internal clock rather than against it. Here are a few ways to do that:

- ❖ Wake up and go to sleep at the same time each day (including weekends)
- ❖ Get a dose of sunshine in the morning to help set your internal clock
- ❖ Create a nightly routine and start winding down an hour before bed
- ❖ Take naps or go to bed earlier if you feel tired during the day
- ❖ Avoid caffeine at least 6 hours before bed

## 7. Improve your sleep hygiene

**The quality of your sleep matters.** Sleep is a key component of good health. "Sleep hygiene" probably sounds a little clinical, but it's all about focusing on improving your sleep habits so you get plenty of deep, restorative sleep every night. For awesome sleep hygiene, try these tips:

- ❖ Keep the temperature between 60–67 °F (16–19 °C)
- ❖ Keep your room dark (night lights and dim lighting are fine, if preferred)
- ❖ Shut off electronic devices 1 hour before bedtime
- ❖ Avoid eating 3-4 hours before bedtime
- ❖ Wear earplugs to block out noise
- ❖ Limit or avoid alcohol after dinner

## 8. Be more active during the day

**You can sneak more activity into your day no matter how busy you are.** When your to-do list is a mile long, it's easy for exercise to end up at the very bottom. If this sounds familiar, focus on squeezing in short bursts of activity as you're going about your day. There's no right way to get moving and every bit helps! Here are a few easy ideas:

- ❖ Take the stairs instead of the elevator or escalator
- ❖ Park further away in the parking lot
- ❖ Get up from your desk and stretch every 30 minutes
- ❖ Bike or walk to work
- ❖ Do 10 squats while you're brushing your teeth
- ❖ Walk or do calf raises when you're on the phone

## 9. Get 150 minutes of aerobic exercise a week

**Exercising for 30 minutes a day, 5 times a week is a great goal.** Aerobic exercises include brisk walking, jogging, swimming, and biking. Basically, anything that gets your heart pumping! Health professionals recommend 150 minutes of moderate activity or 75 minutes of vigorous activity every week to maintain heart health. It's easier to spread out exercise in short sessions over several days rather than exercising for multiple hours 1-2 days a week.

- ❖ Moderate intensity exercise: you can talk but you're too out of breath to sing.
- ❖ Vigorous intensity: you can't say more than a few words without running out of breath.[18]
- ❖ Develop an exercise routine that works for you! Gardening, dancing, hiking, biking, swimming, and chasing after your kids/pets can all be great exercise.

## 10. Do strength training twice a week

**Strength training helps you build muscle and maintain bone density.** Choose activities that work all of your major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms). Try to do 8-12 reps per exercise, which counts as 1 set. Start with 1 set per training session and work your way up to 2-3 sets of each exercise. Strength training activities include:

- ❖ Lifting weights
- ❖ Working with resistance bands
- ❖ Exercises that use your body weight for resistance (push-ups, sit-ups, etc.)
- ❖ Strenuous gardening (digging, shoveling, etc.)
- ❖ Some forms of yoga



### 11. Minimize your stress levels

**Chronic stress can lead to serious physical and mental health problems.** You can't avoid stress completely and low levels of stress can actually be good for you. But intense or prolonged stress can disrupt your immune, digestive, cardiovascular, sleep, and reproductive systems. To minimize your stress as much as possible:

- ❖ Get 150 minutes of aerobic exercise per week
- ❖ Try meditation, deep breathing exercises, and mindfulness techniques
- ❖ Drink alcohol in moderation
- ❖ Keep a journal

### 12. Wash your hands often

**It's one of the easiest ways to avoid getting sick and spreading germs.** It's particularly important to wash your hands after using the bathroom, before preparing and eating food, and after handling animals. Lather up using warm water and gentle soap for about 20 seconds. Then, rinse your hands and dry them off with a clean towel.

- ❖ Washing your hands may sound like a no-brainer, but it can easily slip your mind if you're distracted or in a hurry.
- ❖ Hand sanitizer can work in a pinch, but it's not as effective as good old soap and water. Try to wash your hands as soon as you can.
- ❖ Scrubbing up regularly can help prevent illnesses like flu, pneumonia, and COVID-19.

### 13. Dry brush your skin

**Dry brushing exfoliates, stimulates circulation, and may boost immunity.** The best tool for this is a natural, stiff-bristled bath brush with a long handle. Starting at your ankles, brush up your legs using light, fluid motions. A couple of overlapping strokes is plenty! Then, swipe a few times from wrist to shoulder and finish with a couple of gentle, circular strokes on your tummy and back. Follow up with a shower to rinse away dead skin and moisturize when you get out.

- ❖ Stick with 1-2 sessions a week until you know how your skin handles it. If all goes well, work your way up to once a day.
- ❖ Don't dry brush your face; that skin is too delicate. Lighten the pressure for other sensitive areas like your abdomen, breasts, and neck (or skip them).
- ❖ Avoid dry brushing broken skin, moles, warts, and other raised bumps.



Happy  
New Year  
**2025**

