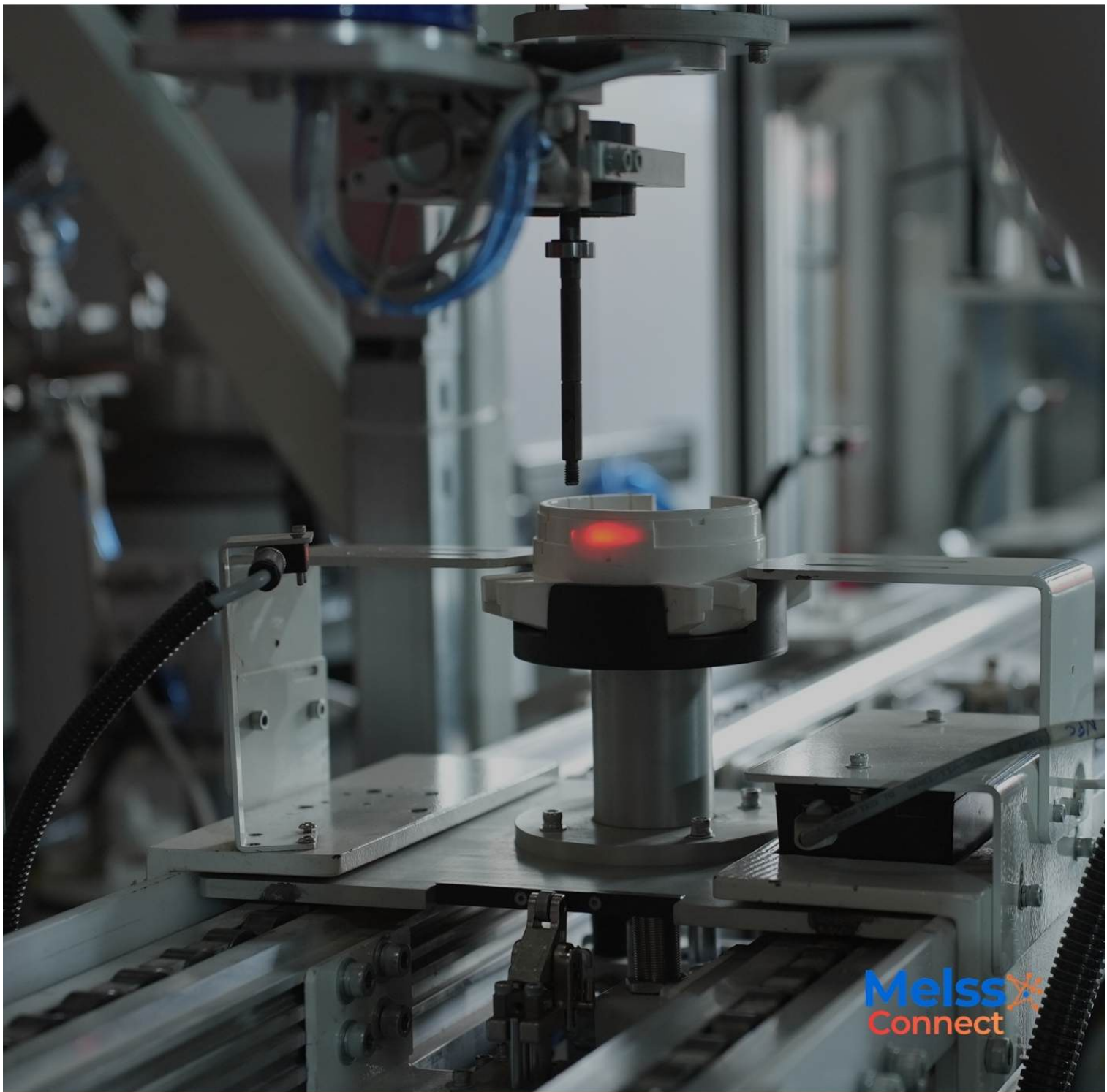
EDITION APRIL 2026

MELSS CONNECT

ENABLING YOU TO STAY AHEAD OF TIME



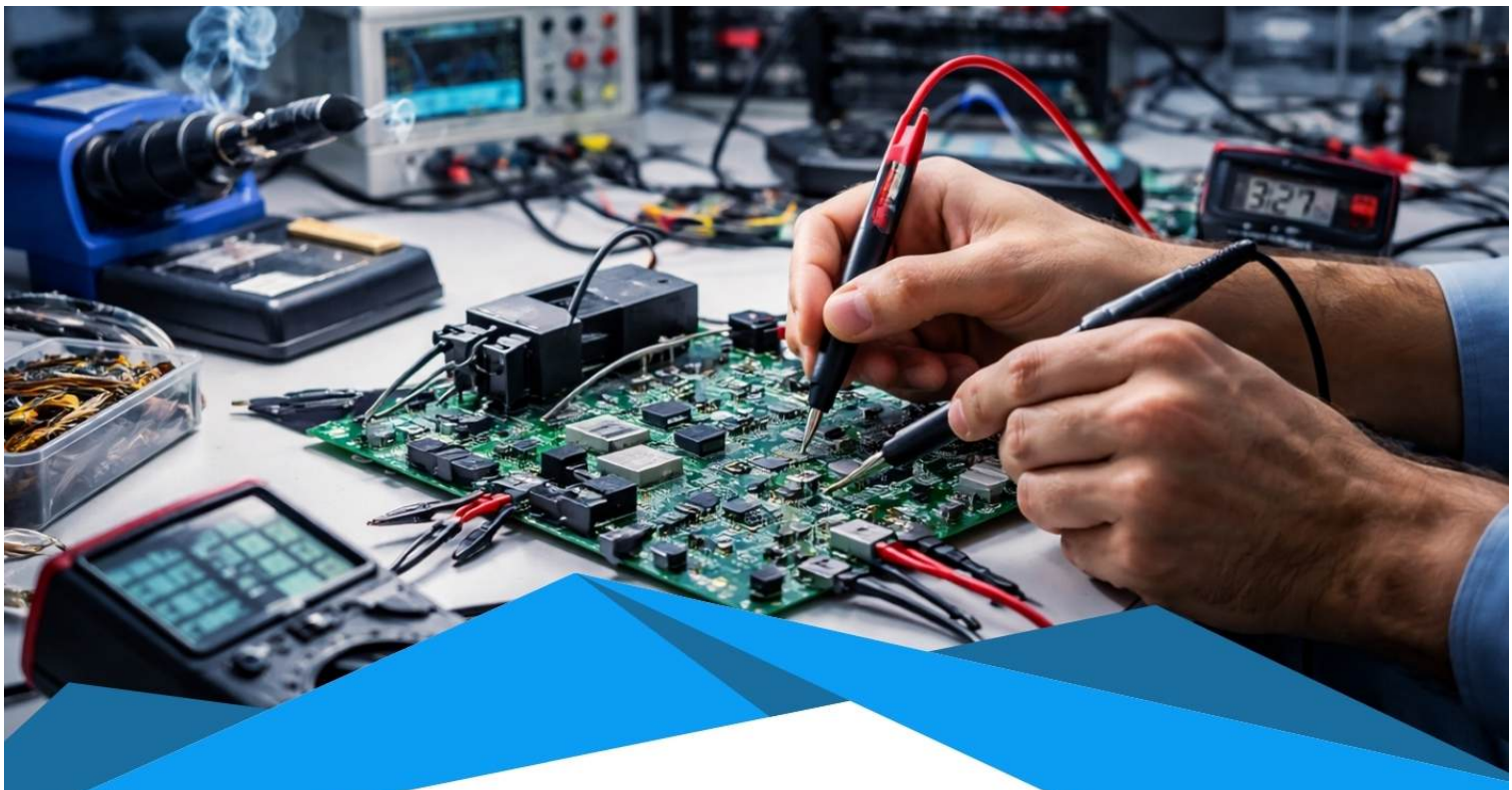
Electronic Manufacturing & Testing Solutions | Industrial Automation | Industry 4.0 | Training Simulators

Artificial Intelligence
Transforming Engineering Workspaces

Smart Conveyor Systems
Enabling Industry 4.0 Efficiency

Rail Training Simulators
Advanced Driver & Maintenance Solutions

New Technology
Curing Technologies in Industries



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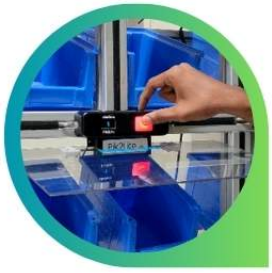

Hall 15 **Stall H21**

Advanced Materials, Assembly, Automation & Testing Solutions for Electronics Manufacturing

Date
8, 9 & 10 April, 2026

IEML,
Greater Noida

Scan here to register

MELSS Driving Innovation Across Industries

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Message from the Executive Chairman

Dear Friends,
Greetings from MELSS.
While we are transiting from the last financial year, the dark clouds over the Global Business Environment have dampened the mood. It is time for all of us to take stock of the potential impact of the present Global situation and take necessary steps to mitigate such impact. We do hope that the situation will improve soon. While these situations may have impact on the business in India, we are trying to use this window to stabilize our activities. I had mentioned a number of planned development activities. I am happy to state that most of those are progressing very well.

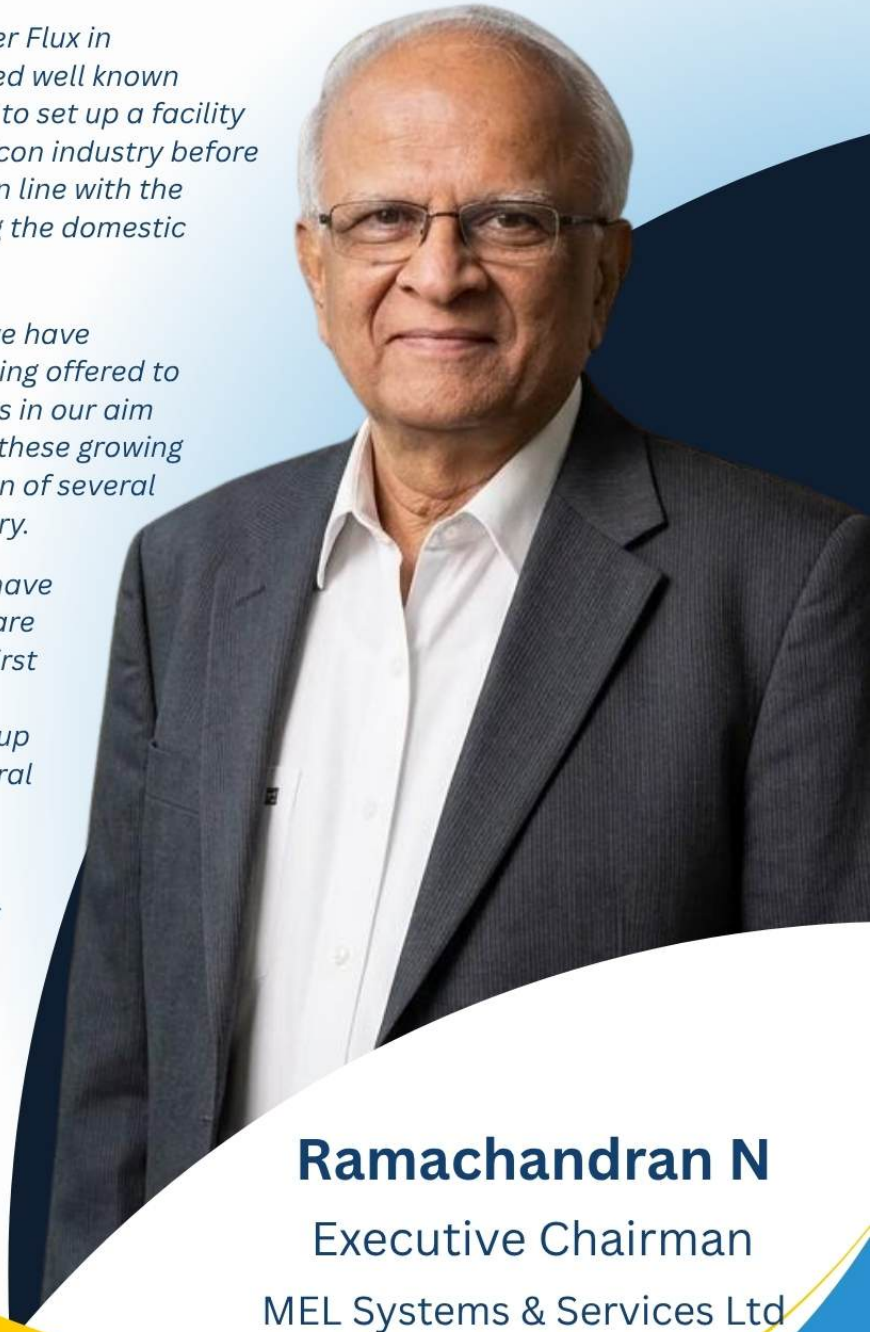
We will be starting the production of solder Flux in association with Indium Corp, the US based well known materials company. We are also planning to set up a facility to make chemicals for the solar and Semicon industry before the end of this year. These are all efforts in line with the Governments push towards strengthening the domestic supply chain for the electronics industry.

Over the past few months, as promised, we have strengthened the portfolio of products being offered to the Semiconductor and the EMS industries in our aim towards providing a complete support to these growing industries. We have also started the design of several capital equipment used in the EMS industry.

We are proud of our software team who have completed the development of the Software for the Loco Driver Simulator. This is the first time this Software is being developed in India. Our New Product Development Group have completed the development of several products in the IOT domain and are now ready for commercial deliveries.

We do strive to provide you all the best of services and support. If there is anything wanting, you may feel free to contact me at nramachandran@melss.com

I do hope that the Global situation will stabilize soon. Wishing you all a successful financial year 2026-27.



Ramachandran N
Executive Chairman
MEL Systems & Services Ltd

Message from the Managing Director

Driving Growth Through Innovation and Resilience

We've just concluded our financial year, and MELSS has achieved several important milestones—making this journey both exciting and challenging.
Amid ongoing geopolitical uncertainties, our team remains optimistic and energized as we step into the new financial year. We have recently ***invested in a new facility in Chennai****, enabling us to manufacture solder flux while also expanding our capacity to assemble and deliver more projects. This enhancement allows our customers to conduct extensive trials and validate solutions before implementation.*
Looking ahead, we are preparing to launch key initiatives in our Intelligent Devices portfolio and in Electronics Manufacturing Automation products. These efforts reflect our continued commitment to innovation and delivering greater value to our customers.
I hope you enjoy this edition of MELSS Connect. Happy reading!

Shivkumar Srinivasan
Managing Director
MEL Systems & Services Ltd

Have You Used MELSS Today?

You probably have — without even realizing it.

From the cars you drive to EV chargers,
from telecom networks to solar energy systems,

MELSS powers the technology behind your everyday life.

MELSS delivers end-to-end Electronics Manufacturing Services (EMS) with precision, reliability, and advanced testing — ensuring high performance in real-world applications.

Every product that leaves our facility is built with accuracy, consistency, and a commitment to excellence — ensuring dependable performance in real-world applications.

We don't just manufacture electronics —
we enable the technology that powers your everyday life.

Soldering | **Automation** | **EV Test Solutions** | **Industry 4.0** | **PCB Rework** | **Automated Test Equipment**

Certifications & Recognition

- DGQA Certified Manufacturing Facility
- CEMILAC Approved for Airborne Systems
- Winner – Managerial Excellence (SME), MMA 2023
- Appreciation from Hon'ble Prime Minister of India

30+	20+	200+	2000+	160+
Years in Industry	Countries Served	Employee Count	Projects Completed	Certified Engineers

Feature Story

Artificial Intelligence - The Next Engineering Revolution at the Workplace

Artificial Intelligence (AI) is no longer a distant concept reserved for the future—it is actively reshaping the present. Across industries, AI is emerging as a transformative force, redefining how organizations operate, compete, and innovate. What was once experimental is now essential.

Today, AI is not just enhancing processes—it is fundamentally changing the way work gets done. In manufacturing, AI-driven systems enable predictive maintenance, minimizing downtime and maximizing productivity. In logistics, intelligent algorithms optimize supply chains, improve demand forecasting, and streamline route planning.

Within the software domain, AI-powered tools are accelerating development cycles—assisting in code generation, bug detection, and automated testing. Beyond these sectors, AI is becoming an integral part of everyday professional workflows. From summarizing complex documents and generating analytical reports to automating repetitive tasks, AI is empowering professionals to shift their focus toward higher-value activities—critical thinking, problem-solving, and innovation.

Engineering the Future with Intelligence

As a technology-driven organization, MELSS has consistently delivered advanced engineering solutions across industrial automation, testing systems, and simulation technologies. This strong foundation positions us uniquely to embrace the next wave of transformation powered by AI. The integration of AI into engineering workflows opens new possibilities—enabling faster design iterations, deeper data analysis, and more intelligent system optimization. It enhances not only efficiency but also the precision and adaptability of solutions delivered to customers.

AI as an Enabler, Not a Replacement

While AI continues to evolve, its true potential lies in collaboration with human expertise—not in replacing it.

At MELSS, our strength is rooted in the deep domain knowledge, hands-on experience, and problem-solving capabilities of our engineers and technical teams.

AI serves as a powerful ally—augmenting human intelligence with data-driven insights and accelerating decision-making processes.

By combining engineering expertise with AI capabilities, organizations can unlock a new level of performance—where innovation is faster, decisions are smarter, and outcomes are more impactful.

Engineering the Future with Intelligence

MELSS is in the early stages of exploring AI, focusing on learning, experimentation, and strategic adoption aligned with real engineering needs.

Organizations that stay curious and embrace emerging technologies will lead the next wave of industrial evolution. AI is not just a tool—it is a catalyst for redefining excellence, delivering greater value, and shaping the future of industry.

Feature Story

Smart Conveyor Systems for Industry 4.0

The Rise of Intelligent Movement

Walk into a modern manufacturing facility today, and you may notice something remarkable – conveyor systems that seem almost alive. They slow down, speed up, reroute packages, and even signal their own maintenance needs – all without human intervention. Welcome to the era of smart conveyor systems, a key force driving Industry 4.0 – the transformation of factories into connected, intelligent ecosystems.

At the heart of this evolution, smart conveyors act as the circulatory system of modern manufacturing. Unlike traditional belt-and-roller setups, these advanced systems are powered by embedded sensors, IoT connectivity, and real-time analytics, creating a responsive and adaptive material handling network.

Data at the Core of Performance

MELSS brings this vision to life with a comprehensive suite of intelligent solutions. Sensors continuously monitor parameters such as speed, load, temperature, and mechanical wear, while Sixdime edge devices – including Sixdime (EDGEBOX, SWAS, & HERTZER) – capture and transmit real-time data. This data feeds into centralized platforms, enabling predictive maintenance that significantly reduces unplanned downtime. When paired with MELSS OEE software, manufacturers gain deeper visibility into operations and overall performance, turning raw data into actionable insight.

Seamless Integration, Maximum Flexibility

Integration is where the real magic happens. Smart conveyors seamlessly connect with MELSS Manufacturing Execution Systems (MES) and third-party ERP platforms, allowing systems to dynamically adjust routing, speed, and throughput based on live production demands.

In flexible manufacturing environments, modular conveyor segments can be quickly reconfigured to support changing product lines – eliminating the need for costly overhauls while ensuring agility and scalability.

Engineered for Efficiency and Impact

At MELSS, design meets durability. Our state-of-the-art conveyors – whether belt, roller, or chain-driven – are engineered to meet global quality standards while delivering strong ROI for scale-focused MSMEs. From warehouses to heavy-duty assembly lines, automotive manufacturing to

ESG-compliant electronics production, our solutions are built for versatility and performance.

Energy efficiency adds another layer of intelligence. Smart conveyors automatically optimize power consumption, scaling down during low-demand periods without compromising productivity. In today's fast-paced industrial landscape, they are no longer a luxury – but a necessity, keeping products moving, operations transparent, and businesses competitive.

What Could Your Line Achieve with Intelligent Movement?
Scan to connect with our experts

Feature Story

Advancing Rail Training Through Simulation

A Shift Toward Smarter Training

As railway and metro networks expand, the demand for skilled operators and maintenance personnel continues to grow. Traditional training using real rolling stock can be expensive and operationally limiting. Simulation technology offers a practical alternative, enabling safe and efficient training without disrupting live systems. MELSS contributes to this shift through its driver and maintenance training simulators.

Realistic Driver Training Environments

Locomotive Driver Training Simulators recreate real-world driving conditions through immersive cab environments, route simulations, and signalling scenarios. With features such as Six degree of motion simulation, instructor monitoring and fault injection, along with over 300+ km of digitally recreated routes, trainees can experience diverse operational situations in a controlled setting.

The simulator enables real-time modelling of traction, braking, and overall train handling dynamics. It accurately replicates route-specific parameters such as gradients, curves, speed restrictions, and station limits. The computer-generated imagery (CGI) is geo-specific and highly realistic, incorporating terrain variations, gradients, and dynamic weather conditions.

Building Skills Without Risk

These simulators allow loco pilots to develop proficiency, situational awareness, and operational discipline without impacting active railway operations, making training both effective and flexible.

Understanding Metro System Complexity

Metro Maintenance Training Simulators support technicians in learning and troubleshooting interconnected electrical, electronic, and mechanical subsystems. The virtual environment enables structured, hands-on learning and fault diagnosis without real-world risks.

Supporting the Future of Rail Systems

Through our locomotive driver and metro maintenance simulators, MELSS remains committed to supporting the rail industry's mission of delivering safe, reliable, and modern transportation systems.

Products & Innovations

MELSS, in partnership with Metcal, brings you the PT4 Series 4-Zone Bottom Heater—engineered for precise and uniform heating in PCB assembly and rework applications.

Designed for advanced electronics manufacturing, the PT4 ensures consistent thermal performance, making it ideal for handling both standard and complex PCB assemblies with ease.

APPLICATIONS

Perfect for PCB rework, BGA/SMD processes, and high-reliability electronics manufacturing in industries such as automotive, aerospace, and industrial electronics.

KEY HIGHLIGHTS

- 4-Zone Independent Heating for uniform heat distribution
- Fast Heating Response to improve productivity
- Accurate Temperature Control with thermocouple support
- Programmable Profiles for repeatable processes
- Radiant Heating Technology to minimize hot spots
- Easy-to-Use Interface for seamless operation

TECHNICAL SNAPSHOT

- Temperature Range: 50°C – 250°C
- Surface Capability: Up to 600°C
- Models: PT4-4000 & PT4-8000

METCAL™

With MELSS and Metcal, achieve higher precision, improved process control and enhanced reliability in your rework operations.

Contact MELSS today for more information, pricing, or a live demonstration.

MELSS Contributions to India's Gaganyaan Human Spaceflight Mission

Gaganyaan: India's Historic Step in Human Space Exploration

India's ambitious human spaceflight program, ISRO's Gaganyaan, marks a defining step in the nation's journey toward advanced space exploration.
MELSS is proud to contribute to this historic mission through the development and delivery of a critical CO_2 absorption test station.

Protecting Astronauts Through Efficient Air Revitalization

Human spaceflight presents a unique and challenging environment where life support systems must function with absolute reliability. One of the most vital requirements inside a space crew module is the continuous removal of carbon dioxide (CO_2) exhaled by astronauts. Elevated CO_2 levels can pose serious health risks, making efficient air revitalization systems indispensable.

MELSS has engineered and supplied a specialized test station using Lithium Hydroxide (LiOH) canisters, which are widely used for CO_2 scrubbing in space missions. hese canisters chemically absorb carbon dioxide, ensuring that breathable air is maintained within safe limits throughout the mission duration.

The test system consists of an industrial PC interfaced with advanced Mass flow controllers, Pressure controllers and other measuring instruments. The setup is fully automated with a custom developed software GUI accurately capturing the test sequence and generating reports.

Our test station plays a crucial role in:

Performance validation of LiOH canisters under simulated mission conditions
Reliability assurance for sustained operation in closed-loop environments
Precision monitoring and data acquisition to meet stringent aerospace standards

Ensuring Astronaut Safety Through Precision CO_2 Testing

The system has been developed with a focus on high accuracy, repeatability, and compliance with the rigorous qualification protocols required for manned space missions. By enabling thorough ground testing, MELSS contributes directly to the safety and success of India's astronauts.
As India prepares to send humans into space, MELSS is honored to play a part in ensuring that every breath taken in orbit is safe.

MELSS continues to contribute to India's space mission

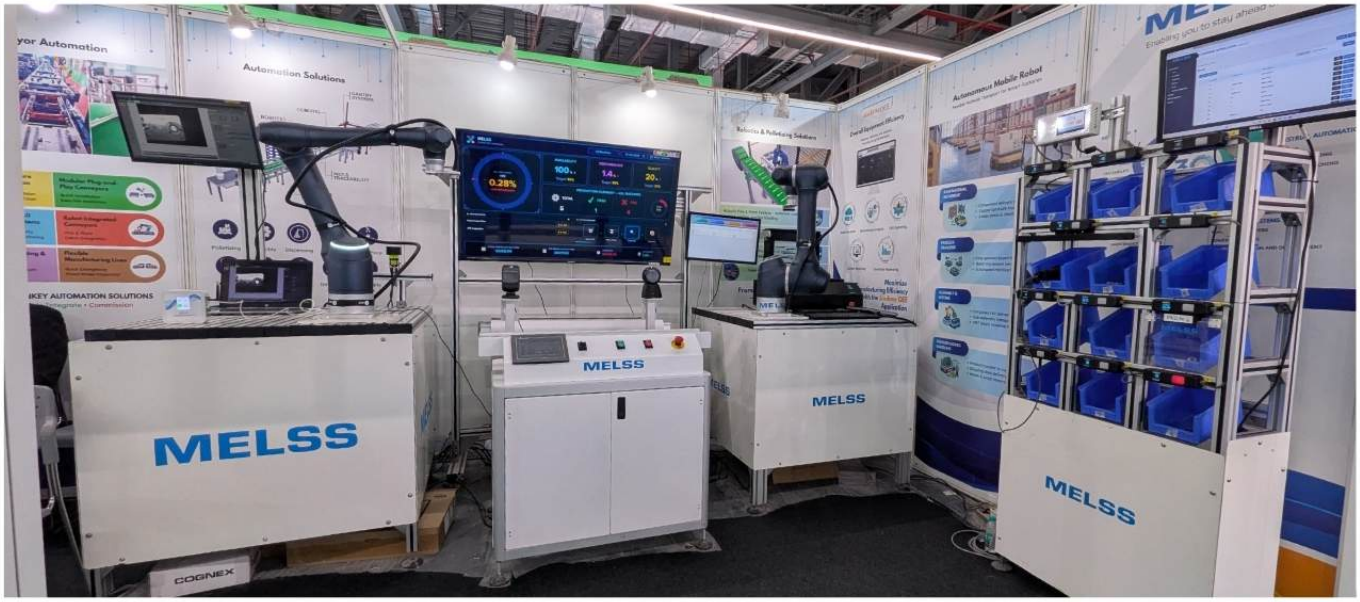
In addition, MELSS has delivered multiple Automated Test Equipment (ATE's) for the validation of power supplies used onboard satellites. We have also supplied several Solar Array Simulators—advanced programmable power sources designed to accurately replicate the electrical characteristics (I-V curves) of solar arrays under varying space conditions.

Our consistent contributions to mission-critical programs have earned us formal recognition from the Indian Space Research Organization, reaffirming MELSS's position as a reliable technology partner in the nation's journey toward space excellence.

Showcasing Innovation at Automation Expo South

MELSS participated in Automation Expo South 2026, held at the Chennai Trade Center, bringing together industry leaders and professionals from across the automation and manufacturing sector. The three-day event provided a platform to explore emerging technologies and evolving industry trends.

At the expo, MELSS showcased its industrial automation and smart manufacturing solutions, focusing on practical approaches to improving efficiency and supporting modern manufacturing environments. The exhibit attracted interest from visitors across various industries. The event also enabled meaningful interactions with customers, partners, and industry peers, offering valuable insights into current challenges and opportunities. Participation in such platforms continues to strengthen industry connections and support ongoing dialogue within the automation ecosystem.



Showcasing Capabilities at Source India Expo

MELSS participated in Source India Expo 2026, held at the Chennai Trade Center in February, bringing together manufacturers, suppliers, and industry professionals from across the Electronic Manufacturing Ecosystem. The event served as a platform to explore collaboration opportunities and evolving industry requirements. At the expo, MELSS presented its capabilities in industrial solutions, engaging with visitors to discuss practical applications and industry-specific needs.

The interactions reflected a strong interest in reliable and scalable solutions for Electronic Design, process, Manufacturing & Testing.
The event also enabled meaningful exchanges with customers and partners, offering insights to current trends and market expectations. Participation in Source India Expo 2026 further strengthened industry connections and reinforced MELSS' presence within the broader manufacturing ecosystem.

MELSS Day 2026

Moments of Joy, Togetherness & Celebration

A CELEBRATION BEGINS

Laughter echoed across every corner

The day began with excitement, bringing everyone together through fun and laughter. An energetic start filled with games, smiles, and shared moments.

Friendly competition, unforgettable moments

It wasn't just about winning or losing, but about sharing joy and cheering each other, turning simple games into lasting memories.

As the sun set... the stage came alive...

Celebrating Talent, Cherishing Moments

The evening commenced with the lighting of the Kuthu Vilakku, symbolizing an auspicious beginning and setting the tone for a meaningful celebration.

The Stage Comes Alive

The evening came alive with Silambam, music, and dance, as employees and their families shared the stage together, with children adding their own spark of joy and energy, making every moment truly special.

Honouring Excellence

Celebrating the people whose efforts make a difference every day.

MELSS

Complete Functional Testing Solutions

POWERING THE FUTURE OF ELECTRONICS TESTING

OBC • DC-DC • DTU • BCU

MELSS delivers advanced **Automated Test Equipment (ATE)** solutions to validate the performance, reliability and safety of next-generation power electronics and EV Subsystems.

SOLUTIONS WE OFFER

EV & POWER ELECTRONICS TESTING
Complete functional test solutions for **OBC,DC-DC, DTU & BCU**

High-voltage & High-Current Testing
Precision validation under real-world operating conditions

Automated Test Sequences
Intelligent software with data acquisition & real-time reporting

Custom Engineered Solutions
Scalable, application-specific designs for R&D, production & end-of-line testing

safety & compliance
Built to global standards with safety-compliant architecture

MELSS | +91 9500123276 | projectsbd@melss.com | www.melss.com

MELSSIAN AWARD

JANUARY 2026

Mr. Mohammed Moosa

Sr. Software Developer

Mohammed Moosa is recognized for his consistent ownership and valuable contribution to the Simulator Software projects. He has played a key role in developing complex schematics-based simulation modules for the MML3 Maintenance Simulator, as well as supporting complex ICI and CGI integration and other web modules for the LOCO-SIM projects. His technical competence has been instrumental in progressing critical simulator development activities and accurately translating domain inputs into reliable web-based software functionality

Moosa demonstrates a calm and focused approach while working seamlessly with multiple stakeholders, including customers, vendors, SMEs, developers, and testers, enabling effective coordination across teams. In addition to his project responsibilities, his ability to handle parallel activities–such as mentoring junior team members and contributing to the development of software tools for process automation across MELSS–further reflects his commitment, versatility, and strong team orientation.

Mr.Gowthamraja

Software Integration Tester

Gowthamraja is recognised for his dedicated contribution to the Simulator projects, particularly in testing, validation, and domain understanding of metro train and locomotive systems. He has demonstrated strong learning agility by quickly adopting complex train functionalities and gaining a practical understanding of rail systems. His genuine passion for the railway domain has driven him to go beyond routine responsibilities to gather accurate operational data required for simulator development.

Gowthamraja has proactively engaged with various stakeholders to understand real-world train behaviour and implementation expectations. His hands-on efforts–including onsite coordination with the vendor Hexrfactory, extended working hours including holidays, and close collaboration to clarify and implement actual requirements–have supported steady progress in simulator validation and integration. His commitment and strong collaboration mindset reflect a high level of ownership and contribution to both the simulator projects.

Curing Technologies in Industries

What is Curing?

Curing is the process of transforming inks, coatings, and adhesives from a liquid or semi-liquid state into a solid, durable finish. This transformation occurs through mechanisms such as solvent evaporation, heat-induced reactions, or photochemical cross-linking, depending on the curing method used. It is a critical step in manufacturing because it directly influences production speed, energy efficiency, material compatibility, and the final performance of the product. Proper curing ensures strong adhesion, chemical and mechanical resistance, and long-term stability. Different technologies—such as conventional (hot air), ultraviolet (UV), and infrared (IR) curing—are selected based on factors like substrate sensitivity, coating thickness, environmental considerations, and required curing time.

Methods in Curing

Conventional Curing

Hardening or drying materials using hot air or convection heat over minutes to hours, suitable for bulky or complex items.

UV Curing

Instantly hardening UV-reactive materials using ultraviolet light, ideal for thin layers and heat-sensitive substrates.

IR Curing

Accelerating drying or crosslinking using infrared radiation, effective for thicker coatings and moderate-depth penetration.

How to choose Right Method?

Situation	Curing Method
Instant curing	UV Curing
Thicker coating	IR Curing
Heat-sensitive material	Heat-sensitive material
Large surfaces	Large Curing
Low VOC	Conventional
Flexible cycle	Conventional

Comparison

	UV	IR	Conventional
Energy Source	UV	Energy source	Energy
Reaction Type	Photochemical	Reaction	Convection
Speed	<1 sec.	Low	Hours
Material Limitation	Only	Broad compatibility	High
Substrate Sensitivity	Surface curing	Surface printing	High
Penetration	Fast	High	Deep
VOC Emissions	Low	High	High
Energy Usage	High	High	High
Typical Use	Electronics coatings, curing	Automotive coatings, coatings	Conventional oven, curing

Applications

Electronics
PCB Coatings, SMT adhesives, displays

Automotive & EV
Senson Bonding | Battery Pack Sealing

Medical Devices
Catheters | DSyringes | Wearable Sensonrs

Printing
UV Inks | Digital Printing | Varnishes

MELSS

To keep up with our latest innovations, team achievements, and happenings at MELSS, follow us on all our social media channels

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Click the social icons to stay connected