

2024 IESA Academy Annual Report



Prepared by
Anurag Jain

Presented by
Aditi Pathak



Table of Content












Sr No	Title	Page No.
1.	About IESA Academy	01
2.	Meet our Team	02
3.	Understanding Battery Fundamentals	03
4.	Corporate Training: Overview of Energy Storage Systems	04
5.	Future Mobility Learning Centre (FMLC)	05
6.	Masterclass Training: Hands-on EV and Battery Technology	06
7.	Future Energy Learning Centre (FELC)	07
8.	Corporate Training: Overview of Green Hydrogen	08
9.	Corporate Training: Fundamentals of Battery and EV Technology - I	09
10.	Mentor-Mentee Session: Research Areas in Energy Storage	10
11.	Corporate Training: Fundamentals of Battery and EV Technology - II	11
12.	Joint Training: EV Battery Technology and Circular Economy	12
13.	Corporate Training: Battery Technology	13
14.	Online IESA Academy	14
15.	E-learning Courses Launched in 2024	15
16.	Way Forward	16

IESA Academy

IESA Academy, an initiative by Customized Energy Solutions (CES), is committed to translating the industry requirement, developing the right skills in interested candidates, and ensuring industry-academia benefit. To achieve our objective, we take directed efforts by identifying gaps, and then partnering, designing, and executing the skill development programs. We do the programs either by ourselves or jointly with our partners.

We are uniquely qualified to support the consultancy for skill mapping, provide skilling solutions, execute tailor-made training programs across entire value chain and for all levels of work right from beginner to top management. Our team, along with our consultants comprises of top global thought leaders in the energy storage, e-mobility, mining, mini grids, and social development space with a strong local presence to assist with market assessment and battery value chain assessment from technical, financial, policy & social development perspectives.

IESA Academy Trainings and Events - 2024

Sr No	Project Name	Executed Month	Modality	Type	Client	Partner
1.	Understanding Battery Fundamentals	Jan 2024	In-person (Pune)	Internal Training	CES Associates	NA
2.	Overview of ESS	Jan 2024	In-person (Noida)	Corporate Training	 IEX INDIAN ENERGY EXCHANGE	NA
3.	Future Mobility Learning Centre (FMLC)	Feb 2024	In-person (Delhi)	Knowledge Sessions	Open for All	ISA
4.	Hands-on EV and Battery Technology	May 2024	In-person (Pune)	Masterclass	For Registered Delegates	
5.	Future Energy Learning Centre (FELC)	Jul 2024	In-person (Delhi)	Knowledge Sessions	Open for All	
6.	Overview of Green Hydrogen	Jul 2024	In-person (Bengaluru)	Corporate Training	 MITSUBISHI POWER	 IITM research park Bringing unlike minds together
7.	Fundamentals of Battery and EV Technology-I	Jul 2024	In-person (Pune)	Corporate Training	 TATA TATA AUTOCOMP	NA
8.	Research Areas in Energy Storage	Aug 2024	In-person (Pune)	Mentor-mentee Session	 MIT-WPU	NA
9.	Fundamentals of Battery and EV Technology-II	Aug 2024	In-person (Pune)	Corporate Training	 TATA TATA AUTOCOMP	NA
10.	EV Battery Technology and Circular Economy	Oct 2024	Online (Zoom)	Scheduled Training	For Registered Delegates	 ARAI® Progress through Research
11.	Battery Technology	Oct 2024	In-person (Pune)	Corporate Training	 TATA TATA AUTOCOMP	 AIET

Meet Our Team



DEBI PRASAD DASH **PRESIDENT AND EXECUTIVE DIRECTOR, IESA**

Debi Prasad Dash drives IESA membership and services along with various initiatives. He is involved in techno-commercial feasibility and consulting in emerging technology areas like energy storage, renewable integration, smart grids, and electric vehicle infrastructure. He is also involved in policy recommendations for the energy storage roadmap for India.



ADITI PATHAK **MANAGER - IESA ACADEMY**

Aditi is responsible for business development activities for IESA and IESA Academy, which include building skill-development ecosystem, brainstorming and executing IESA Academy initiatives, on-boarding experts, partners & members and promoting IESA Academy courses.



SNEHAL RANADE **ASSISTANT MANAGER – WEB PLATFORM**

Snehal is working as Associate Education Developer at IESA Academy. She is responsible for LMS administration, creating online and on-ground training modules and hosting instructor-led training programs.



ANURAG JAIN **TRAINING COORDINATOR - IESA ACADEMY**

Anurag Jain is responsible for executing IESA Academy's skill development programs. He works closely with experts, vendors, and participants to ensure the seamless execution of training courses and to address any queries. Additionally, he creates promotional content to derive the promotion activities of various training and skill development programs.

Understanding Battery Fundamentals



IESA Academy conducted Internal Training on "Understanding Battery Fundamentals" in two phases for CES associates. Session#1, on January 2, 2024, led by Rajarshi Sen, covered the fundamentals of electric storage batteries, including their history, electric energy cell development, and various types of batteries such as Lead Acid Bi-Polar, Lithium Ion, NAS (Sodium Sulfur), and Flow Batteries. It also explored major applications of electric storage batteries, particularly in electric material handling equipment.

Session#2, on January 16, 2024, also led by Rajarshi Sen, focused on the construction of cells and batteries. Topics included the design of electric storage cells, important parts like electrolytes, electrodes, separators, battery containers, and venting systems. It also covered the construction of lithium-ion batteries from plates and separators, the form factors of cells, battery pack assembly, battery management systems (BMS), and the final testing of lithium-ion battery pack samples using a multi-channel battery pack tester.



2nd & 16th
Jan 2024



CES
Associates



Attendees
30+

Corporate Training: Overview of Energy Storage Systems

Client



IESA academy organized an in-person corporate training program on the **Overview of Energy Storage Systems** for associates of the Indian Energy Exchange (IEX) at their corporate office in Noida. The training aimed to provide a comprehensive understanding of energy storage systems.

The program began with a welcome and keynote session, followed by a detailed discussion on battery technical parameters and performance criteria. After lunch break, the training continued with an overview of battery energy storage systems, exploring their market and applications. The final session, conducted online, covered the policy and regulatory landscape. We received positive feedback from the IEX associates for enhancing knowledge on technical, market, and regulatory aspects of the ESS.



29th Jan
2024



IEX
Associates



Attendees
20

Future Mobility Learning Centre (FMLC)


Partner




IESA Academy, with support from ISA, organized FMLC, a key learning platform at the Bharat Mobility Expo 2024 in Delhi, India, to address the growing need for skilled professionals in the future mobility industry.

The FMLC attracted a diverse group of participants, including business leaders, professionals, researchers, faculty, students, and others interested in future mobility. Sessions covered a wide array of topics, such as EV components, power electronics, charging infrastructure, battery technologies, hydrogen for mobility, and alternate fuels like biofuels, LNG/CNG, and methanol.


Renowned speakers from organizations like **Hero Moto Corp, NTPC, Bosch, CES, and WRI** shared their expertise, making the event highly informative and impactful.



**1st - 2nd Jan
2024**



**Supported by
ISA**



**Attendees
200+**

Masterclass Training: Hands-on EV and Battery Technology



IESA Academy hosted its annual flagship IESA Masterclass on Battery and EV Technology at the CES R&D Lab in Pune. The program covered topics like Lithium-ion battery technology, BMS, EV architecture, charging, and battery safety, featuring practical demonstrations, including battery pack and EV 2W tear down. The masterclass delved into topics like cell-module-pack manufacturing, EV components, and e-mobility trends, with a strong emphasis on safety compliance. The two-day event offered a blend of expert-led presentations, lab sessions, interactive Q&A, and networking opportunities.

Speakers from leading organizations like **CMET, CES, ARAI, IIT Delhi, and Exicom** added value to the sessions. The event attracted professionals from the battery, EV technology, and clean energy sectors, who commended the balance of theoretical insights and hands-on learning for enhancing their understanding of advanced battery and EV systems.



23rd - 24th
May 2024



Masterclass for
Industry Professionals



Attendees
24

Future Energy Learning Centre (FELC)

Partner



IESA Academy, with support from the International Solar Alliance (ISA), organized the Future Energy Learning Centre (FELC) during the 10th India Energy Storage Week (IESW) 2024 in New Delhi.

FELC featured learning sessions led by thought leaders and experts, offering insights on advancements in battery technologies, solar+storage, green hydrogen, India’s energy market, e-mobility trends, EV charging, microgrids, and the need for Centre of Excellence in Battery Engineering.

Participants from sectors like e-mobility, charging infrastructure, energy storage, green hydrogen, and microgrids attended the learning sessions. Speakers from organizations including ISA, IIT Delhi, NISE, CES, and Atria University enriched the event, making it highly impactful.



**1st - 2nd July
2024**



**Industry
Professionals**



**Attendees
150+**

Corporate Training: Overview of Green Hydrogen

Client



The IESA Corporate Training on Green Hydrogen for the associates of Mitsubishi Power was a three-day program offering insights into green hydrogen technology. The sessions covered hydrogen production via electrolysis, global and Indian policy landscapes, 2030 hydrogen economy roadmap, hydrogen storage, safety, and applications in stationary power and fuel cells. Day one concluded with an online session on basics of green ammonia.

Day two emphasized renewable energy strategies, green hydrogen project modeling and financing, and hydrogen mobility. The final day featured lab demonstrations at fuel cell and electrolyzer facilities at IIT Madras, along with discussions on India's carbon market and Hydrogen Valley Initiative.

Experts from organizations like **Bosch, WRI, Plug Power, IESA, CES, and Greenko Group** enriched the sessions. Participants praised the program for its depth, practical insights, and valuable takeaways, equipping them to excel in green hydrogen technology.



18th - 20th July
2024



Associates of
Mitsubishi Power



Attendees
20

Corporate Training: Fundamentals of Battery and EV Technology - I



The IESA Corporate Training on the Fundamentals of Battery and EV Technology was an in-person program specifically designed for the fresh recruits of Tata Autocomp. The training aimed to build a strong foundation in battery and EV technology, focusing on key areas such as lithium-ion batteries, EV technology, and Battery Management Systems (BMS).

Led by experts Calvin Raj and Gurusharan Dhillon from CES, the sessions included interactive discussions, providing participants with valuable insights about basics of battery and EV technologies.

The training received positive feedback from participants, who praised the expert-led sessions for their depth and relevance, along with the interactive nature of the program. These sessions equipped the recruits with essential knowledge and skills to excel in the rapidly evolving field of battery and EV technology.



30th July
2024



New Recruits
of TACO



Attendees
50

Mentor-Mentee Session: Research Areas in Energy Storage

Client



At the R.I.D.E. 2025 event hosted by MIT-WPU on August 20, 2024, Aditi Pathak and Anurag Jain conducted a two-hour mentoring session on "Research Areas in Energy Storage." This session offered second-year undergraduate students from the Department of Electrical and Electronics Engineering (DoEEE) valuable insights into the research process and opportunities in energy storage sector.

The speakers highlighted cutting-edge research trends, advancements in battery technology, and real-world applications. They also discussed leading global institutes and universities offering research opportunities in energy storage and provided guidance on global scholarships aimed at promoting innovation in the energy sector. The interactive Q&A session encouraged active student engagement, inspiring them to explore research in this critical area.



20th August
2024



Students of
DoEEE MIT -WPU



Attendees
50

Corporate Training: Fundamentals of Battery and EV Technology - II



IESA Corporate Training on the Fundamentals of Battery and EV Technology for the second batch of fresh recruits of Tata Autocomp was an in-person event aimed at building a solid foundation in battery and EV technology.

This training covered the essentials of battery technology, with a particular focus on lithium-ion batteries and EV technology. Experts Sandeep Gupte and Gurusharan Dhillon led the sessions, delivering valuable insights and critical skills to help participants excel in this rapidly advancing field.

The training was well-received, with positive feedback highlighting the interactive nature of the sessions and the expertise of the instructors. Participants found the hands-on activities and expert-led discussions particularly beneficial, providing them with practical knowledge and skills necessary for success in the field of battery and EV technology.



21st August
2024



New Recruits
of TACO



Attendees
50

Joint Training: EV Battery Technology and Circular Economy

Partner

ARAI ACADEMY
Excellence in Education



The IESA-ARAI Joint Training on EV Battery Technology and Circular Economy, held online on Zoom platform, brought together the experts from **IESA, ARAI, CES, C-MET, TCG Crest, and Exigo**. Participants gained valuable insights into EV battery technology and sustainability.

The program covered the transition from ICE to EVs, battery basics, next-gen technologies, safety, market trends, and circular economy aspects like recycling and second-life applications. Sessions featured case studies, process videos, and discussions on global and Indian market dynamics, and policy frameworks.

Participants praised the depth and relevance of the content, the expertise of the speakers, and the practical insights offered. The program successfully equipped attendees with a solid understanding of EV battery technology and circular economy practices, enabling them to drive sustainable solutions in their organizations.



7th - 9th Oct
2024



Industry
Professionals



Attendees
20

Corporate Training: Battery Technology



IESA Academy conducted a three-day Corporate Training on Battery Technology for Tata Auto Comp Systems Limited (TACO) in Pune. The program provided a detailed overview of battery fundamentals, lithium-ion technology, and Battery Management Systems (BMS), along with discussions on battery safety, recycling, and second-life applications. Participants engaged in interactive sessions exploring the practical aspects of battery applications, standards, and sustainability.

The final day featured lab visits to CMET and CES facilities, offering hands-on exposure to cylindrical cell manufacturing and battery testing processes. Expert speakers from IESA, ARCI Chennai, CES, Exigo, Recycle Karo, and ULSE shared their knowledge, ensuring a well-rounded learning experience. The training received positive feedback for its comprehensive content and practical insights, equipping attendees with the skills needed to excel in battery technology.



14th, 17th, 22nd
Oct 2024



Associates of
Tata Auto Comp



Attendees
24

Online IESA Academy

EQUIPPING YOU WITH EMERGING TECHNOLOGY SKILLS FOR A GREENER TOMORROW!

-  Blended Learning Options
-  Free Registration
-  Certificate
-  Customized Learning Experience
-  Preeminent Expert Panel

IESA Academy can be accessed anytime, anywhere...

The online IESA Academy is a learning platform designed to help people and organizations learn about new technologies that support a greener future. It offers a variety of learning options, including e-learning courses, scheduled training programs, corporate sessions, and webinar recordings. The Academy provides flexible learning opportunities, allowing users to study anytime and anywhere with personalized learning experiences.

Backed by a team of experts and strong academic partnerships, the IESA Academy helps learners gain valuable skills and advance their careers. Additionally, members can get their queries answered by experts through the "Ask IESA" feature. They can also watch informative podcasts and read insightful academy blogs. By joining the Academy, you can be part of India's movement toward advanced energy storage, green hydrogen, and e-mobility technologies.

E-Learning Courses

Sr. No.	E-learning course category	Number of existing courses
1.	Battery Technology	17
2.	E-mobility	6
3.	Battery Manufacturing and Recycling	6
4.	Green Hydrogen	5
5.	Renewables and Grid Integration	12
6.	Safety and Standards	15
7.	Start-up and Incubation	3
8.	Partner Courses (The World Bank)	3
9.	Webinars	11

E-learning Courses Launched in 2024

Sr. No.	Course Name	Description	Glimpse
1.	Lithium-ion Battery Technology	<p>This course offers an in-depth exploration of lithium battery technology, including its fundamental principles, various chemistries, manufacturing processes, applications, recycling methods, and future trends.</p> <p>Duration: 7 hours Fee: INR 999</p>	
2.	Energy Storage Systems: Powering the Future with Renewables	<p>This course provides a comprehensive exploration of energy storage systems (ESS) and their pivotal role in facilitating the integration of renewable energy sources into the power grid.</p> <p>Duration: 7.5 hours Fee: INR 999</p>	
3.	Fundamentals of Hydrogen Energy	<p>Hydrogen energy is key to clean energy. This course covers principles of Hydrogen as a source of energy, methods of production, storage techniques, transport, applications, environmental impacts, safety, and market.</p> <p>Duration: 7.5 hours Fee: INR 500</p>	
4.	Emobility	<p>E-mobility is transforming transportation, energy, and environmental stewardship. This course provides understanding of EV design, EV charging, safety & standards for students, professionals, and enthusiasts.</p> <p>Duration: 7 hours Fee: INR 999</p>	
5.	UL 2580: Safety Standard for Batteries for Use in EVs	<p>UL 2580 is a safety standard established by Underwriters Laboratories (UL), an independent global safety science company, specifically for batteries intended for use in Electric Vehicles (EVs).</p> <p>Duration: 45 minutes Fee: INR 500</p>	

Way Forward

IESA Academy will actively engage in curating and delivering tailored corporate trainings for skilling, upskilling or reskilling. We will work closely with internal and external subject matter experts to update curricula addressing emerging energy trends. This will enhance skills in sustainable energy practices, regulatory frameworks and new technologies.

IESA Academy will further strengthen national and global partnerships with academia and research institutes to execute joint projects to foster practical, hands-on learning. We will enrich the online learning platform with additional e-learning modules on energy storage, e-mobility and green hydrogen. IESA Academy will continue its efforts to enhance skills for a greener tomorrow..



Contact us for your skilling, upskilling or reskilling needs in energy sector

 <https://academy.indiaesa.info/>

 academy@indiaesa.info

Follow IESA Academy to receive updates

