Koneru Lakshmaiah Education Foundation
(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)
Accredited by NAAC as 'A++' ❖Approved by AICTE ❖ ISO 21001:2018 Certified
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13-08-2020

Webinar
on
"E-Mobility in India"

Circular:

National Level webinar on "E-Mobility in India" – Reg.

Registrar <registrar@kluniversity.in>
Tue 8/11/2020 4:22 PM

To:KLU Chancellor <chancellor@kluniversity.in>;PRESIDENT <president@kluniversity.in>;Havish <havish@kluniversity.in>;Raja H Koneru <krh@kluniversity.in>;konerurajaharin@gmail.com <konerurajaharin@gmail.com>;Dr. S S Mantha <ssmantha@kluniversity.in>; ssmantha33@gmail.com <ssmantha33@gmail.com>;Chancellor Office <chancellorsoffice@kluniversity.in>;Dr.Venkat <drvenkat@kluniversity.in>;Pro Chancellor Office <prochancelloroffice@kluniversity.in>;Vice Chancellor - KLU <vc@kluniversity.in>;Dr. LSS Reddy <drlssreddy@kluniversity.in>;Pro VC <provc@kluniversity.in>;N Venkat Ram <venkatram@kluniversity.in>;Dean Academics <dean.academics@kluniversity.in>;DR G.P SARADHI VARMA <gpsvarma@kluniversity.in>;Office Of Pro-VC <provcoffice@kluniversity.in>; Registrar <registrar@kluniversity.in>;Dr Y V S S S V Prasada Rao <prasadarao_yvsssv@kluniversity.in>;Dr Jagadeesh Anne <drjagadeesh@kluniversity.in>

1 attachments (1 MB)
ECE - E Mobility in India - Webinar - Poster.jpg;

Ref: KLEF/RO/HOD-ECE/2020-21 Date: 11-08-2020

Orders of the Vice-Chancellor dt.11-08-2020

CIRCULAR

Sub: National Level webinar on **"E-Mobility in India"** – Reg.
Ref: Letter dated 11.08.2020 from Dr.P. Satyanarayana, Professor, ECE, forwarded by Dr.M. Suman, HoD-ECE.

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This is to inform all the faculty members and students that Department of ECE, KLEF, is organizing a National Level webinar on "E-Mobility in India" in association with Skill Shark EduTech. from 11.00 a.m. to 12.30 p.m. on 13th August 2020 (Thursday).

Speaker : Ashhar Ahmed Shaikh

Mr. Ashhar Ahmed Shaik, is an experienced Team Lead with a demonstrated history of working in the EV Development & EduTech Industry. He is expertise in Mechatronics, Robotics, and Automation. He is a Co-Founder of Bharat Mobi, an EV start-up offering EV conversion kits and services.

Registration is free and link for registration is https://tinyurl.com/EmVKLEF2020

Poster of the webinar is attached herewith. E-certificate will be provided to the participants.

For any queries on webinar Mr. M Lakshmana Kumar- Assistant Professor- Department of ECE, Mobile No.9000655745 and Mr. B Srikanth Deepak- Assistant Professor- Department of ECE, Mobile No.8019996907 can be contacted.

REGISTRAR

Encl: Poster

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Mail to: Hon'ble Vice-Presidents, KLEF

Mail & Hard copy to: Hon'ble Chancellor / Hon'ble Pro Chancellor / Hon'ble Vice-Chancellor

Mail & Hard copy to: OSD to Hon'ble Chancellor-Dr.Ambatipudi Rama Kumar

Mail & Hard copy to: Pro Vice-Chancellor (Administration)-Dr.N.Venkatram / Pro Vice-Chancellor (Academics)-Dr.GPS Varma

Mail to:Chief Coordinating Officer-Dr.A. Jagadeesh / Chief Coordinating Officer of Examinations-Dr.K.J.Babu

Mail to: Special Officer -Dr.A. Vani, / Special Officer in VC's Peshi –Dr.K. Subrahmanyam /

Poster:

Fig. Poster of webinar

1. Objective and discussions:

Objectives:

Adoption Encouragement:

Promote the widespread adoption of electric vehicles (EVs) across various segments including two-wheelers, three-wheelers, cars, buses, and commercial vehicles.

Infrastructure Development:

Establish a robust charging infrastructure network across urban and rural areas to support the charging needs of EV users, ensuring accessibility and convenience.

Affordability and Incentives:

Implement policies and incentives to make EVs more affordable and attractive to consumers, including subsidies, tax incentives, and favorable financing options.

Technology Advancement:

Foster research and development efforts to improve EV technology, battery efficiency, range, and affordability, ensuring that Indian EVs remain competitive in the global market.

Renewable Energy Integration:

Integrate EV charging infrastructure with renewable energy sources such as solar and wind power to promote sustainable and low-carbon transportation solutions.

Public Awareness and Education:

Raise awareness about the benefits of e-mobility, including reduced air pollution, lower operating costs, and energy security, through public campaigns and educational initiatives.

Regulatory Framework:

Develop a supportive regulatory framework that addresses issues such as vehicle standards, charging infrastructure standards, grid integration, and safety regulations for EVs.

Collaboration and Partnerships:

Foster collaboration among government agencies, private sector companies, research institutions, and civil society organizations to accelerate the adoption of e-mobility and address common challenges.

Skill Development and Job Creation:

Provide training programs and skill development initiatives to prepare the workforce for the transition to e-mobility, creating employment opportunities in manufacturing, servicing, and maintenance of EVs and charging infrastructure.

Urban Planning and Integration:

Integrate e-mobility considerations into urban planning and transportation policies, including the development of dedicated EV lanes, parking facilities, and last-mile connectivity solutions to enhance the overall efficiency and sustainability of urban transportation systems.

Discussion:

E-Mobility in India holds immense potential to address various socio-economic and environmental challenges while driving technological innovation and economic growth. With rapid urbanization, rising air pollution levels, and increasing energy demand, transitioning to electric vehicles offers a viable solution to mitigate these challenges.

One of the key drivers of e-mobility adoption in India is the government's push towards cleaner transportation through initiatives such as the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme. This scheme provides financial incentives for the purchase of EVs, promotes domestic manufacturing of EV components, and supports the development of charging infrastructure.

However, several challenges need to be addressed to realize the full potential of e-mobility in India. These include concerns about the high upfront costs of EVs, limited

charging infrastructure, range anxiety, and the need for skilled manpower for EV servicing and maintenance. Additionally, the integration of renewable energy sources into the charging infrastructure network is crucial to ensure that e-mobility contributes to reducing carbon emissions and mitigating climate change.

To overcome these challenges, a multi-stakeholder approach involving government, industry, academia, and civil society is essential. Collaboration among these stakeholders can drive innovation, reduce costs, and accelerate the deployment of e-mobility solutions. Moreover, public awareness campaigns and education programs can help dispel myths and misconceptions about EVs while highlighting their environmental and economic benefits.

In conclusion, e-mobility presents a transformative opportunity for India to leapfrog towards a cleaner, greener, and more sustainable transportation future. By setting clear objectives, implementing supportive policies, and fostering collaboration, India can emerge as a global leader in e-mobility innovation and adoption.

2. **Key Technologies:**

Electric Vehicle (EV) Batteries:

High-performance lithium-ion batteries are essential for powering electric vehicles. Advancements in battery technology, including energy density, charging speed, and longevity, are crucial for enhancing the range and efficiency of EVs.

Battery Management Systems (BMS):

BMS monitors and manages the health, performance, and safety of EV batteries. It regulates charging and discharging, prevents overcharging or overheating, and optimizes battery life and efficiency.

Electric Drive Systems:

Electric drive systems, including electric motors, power electronics, and motor controllers, convert electrical energy from the battery into mechanical energy to propel the vehicle. Efficiency and reliability of these systems are critical for overall vehicle performance.

Charging Infrastructure:

EV charging infrastructure encompasses various technologies, including AC chargers, DC fast chargers, and wireless charging systems. Developing a widespread network of charging stations with interoperable standards is essential for supporting the adoption of electric vehicles.

Vehicle-to-Grid (V2G) Integration:

V2G technology enables bidirectional energy flow between electric vehicles and the grid, allowing EV batteries to store and discharge energy based on grid demand. This technology enhances grid stability, enables peak shaving, and facilitates renewable energy integration.

Renewable Energy Integration:

Integrating renewable energy sources such as solar and wind power with EV charging infrastructure promotes sustainable and low-carbon transportation solutions. Solar-powered charging stations and renewable energy microgrids can provide clean energy for EVs.

Vehicle Electrification Solutions:

Retrofitting internal combustion engine vehicles with electric drivetrains or hybrid systems offers a cost-effective approach to electrifying the existing vehicle fleet. Conversion kits and aftermarket solutions play a significant role in accelerating the transition to e-mobility.

Energy Storage Solutions:

Energy storage technologies, including stationary batteries and ultracapacitors, support EV charging infrastructure by storing and managing electricity supply. These solutions optimize energy distribution, mitigate grid fluctuations, and enhance charging station reliability.

Connected and Autonomous Vehicles (CAVs):

Connectivity and automation technologies enable smart features in electric vehicles, such as remote monitoring, predictive maintenance, and autonomous driving capabilities. CAVs enhance safety, efficiency, and user experience in e-mobility.

Smart Grid Integration:

Smart grid technologies facilitate dynamic load management, demand response, and grid-balancing capabilities to accommodate the increased electricity demand from electric vehicles. Vehicle-grid integration solutions optimize charging schedules and minimize grid impacts.

These key technologies play a crucial role in advancing e-mobility in India, facilitating the transition towards sustainable and environmentally friendly transportation solutions. Collaboration among stakeholders, innovation in technology development, and supportive policies are essential for realizing the full potential of e-mobility in the country.

3. **Applications:**

Electric Two-Wheelers (E2Ws):

E2Ws, including electric scooters and motorcycles, are popular modes of transportation in urban and rural areas. They offer a cost-effective and environmentally friendly alternative to conventional petrol-powered two-wheelers, reducing air pollution and dependence on fossil fuels.

Electric Three-Wheelers (E3Ws):

Electric rickshaws, commonly known as e-rickshaws or e-autos, serve as last-mile connectivity solutions in cities and towns. E3Ws provide affordable and emission-free transportation for passengers and goods, particularly in congested urban areas.

Electric Cars:

Electric cars, such as sedans, hatchbacks, and compact SUVs, are gaining traction in the Indian market. These vehicles offer zero-emission mobility and lower operating costs compared to traditional petrol or diesel cars, making them attractive options for urban commuters and fleet operators.

Electric Buses:

Electric buses are being deployed in public transportation fleets across major cities to reduce air pollution and improve urban mobility. Electric buses offer quieter operation, lower maintenance costs, and reduced greenhouse gas emissions compared to diesel or CNG buses.

Last-Mile Delivery Vehicles:

Electric cargo vans, delivery trucks, and three-wheelers are used for last-mile logistics and e-commerce deliveries. These vehicles help reduce congestion, emissions, and operating costs for logistics companies while improving delivery efficiency and customer satisfaction.

Electric Two-Wheeler Sharing:

Electric scooter sharing services are becoming increasingly popular in urban areas, offering convenient and eco-friendly transportation options for short trips. Electric scooter rental platforms provide users with access to shared vehicles through smartphone apps, promoting sustainable mobility solutions.

Electric Vehicle Charging Infrastructure:

EV charging infrastructure, including public charging stations, residential charging units, and workplace charging facilities, supports the widespread adoption of electric vehicles. Charging infrastructure deployment is critical for addressing range anxiety and enhancing the convenience of EV ownership.

Solar-Powered Charging Stations:

Solar-powered EV charging stations leverage renewable energy to charge electric vehicles, reducing grid dependence and carbon emissions. These stations can be installed in remote areas or off-grid locations where access to electricity is limited.

Electric Rickshaw and Taxi Fleets:

Electric rickshaws and taxis are being introduced into transportation fleets to provide clean and efficient mobility solutions for passengers. Electric vehicle fleets contribute to reducing air pollution, noise pollution, and overall environmental impact in urban areas.

Integrated Mobility Solutions:

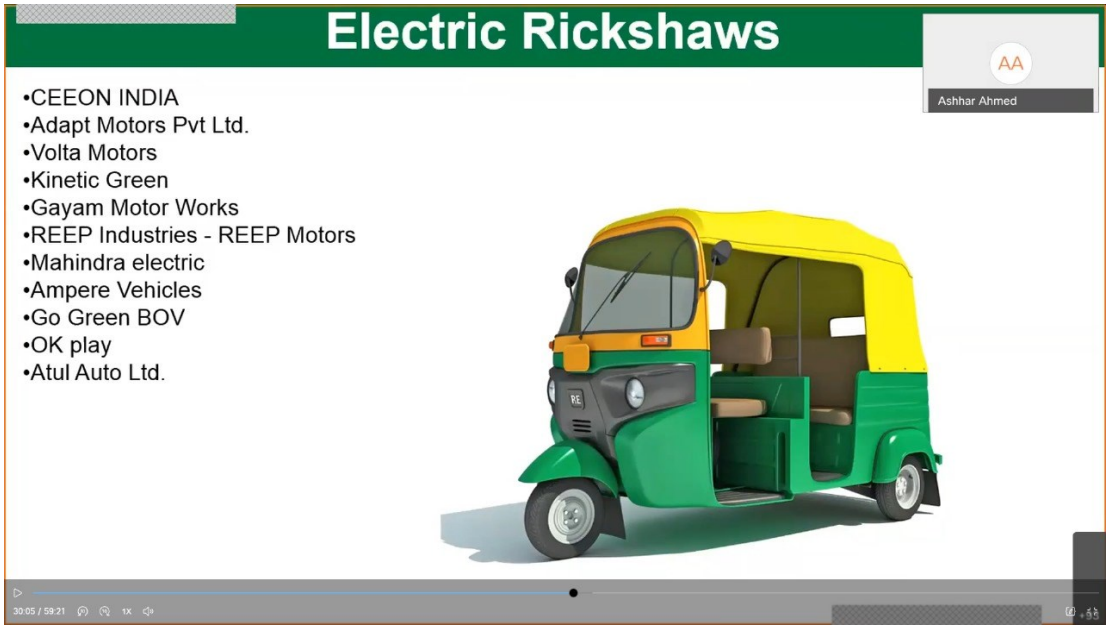
Integrated mobility platforms combine various modes of transportation, including electric vehicles, public transit, bicycles, and ride-sharing services, to offer seamless and sustainable mobility options for users. These platforms optimize route planning, reduce congestion, and promote multimodal transportation habits.

These applications demonstrate the diverse and expanding role of e-mobility in India, offering solutions to address urban congestion, air pollution, energy security, and climate change while enhancing the overall quality of life for citizens. Continued investment, innovation, and policy support are essential for realizing the full potential of e-mobility in the country.

Online Link

https://kluniversity.webex.com/kluniversity/j.php?MTID=m182962c576cfb4c8c4229a5cbf61af9a

Number of participants: 55



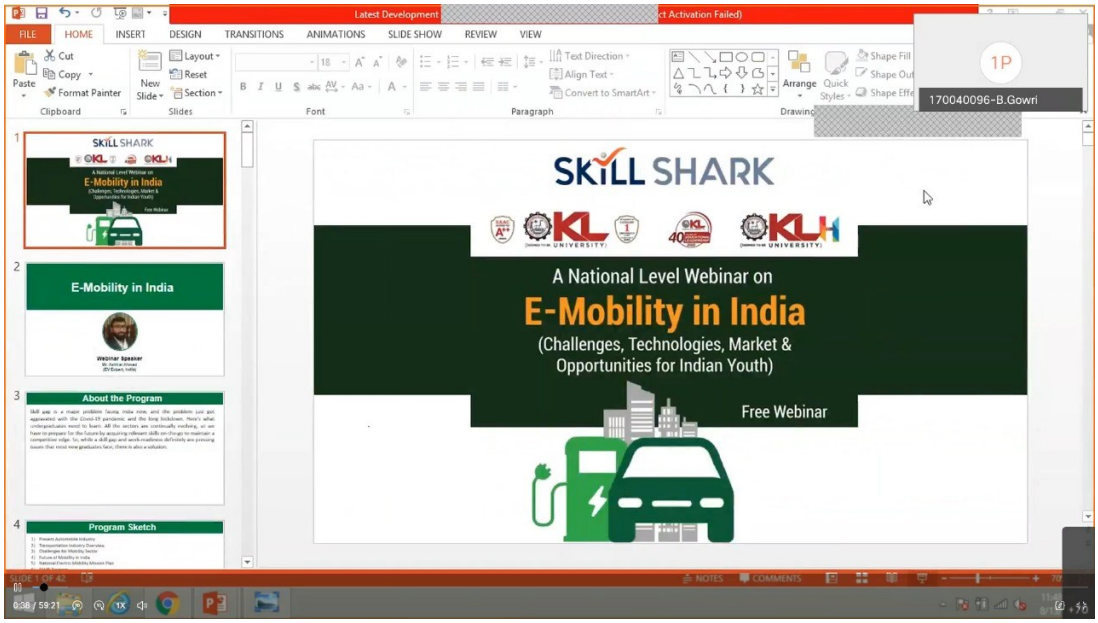


Fig. Snapchats of the webinar

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3	190040383	PAMIDIMUKKALA TEJASWINI
4	190040106	DAREDDY RAKESH KUMAR REDDY
5	190040605	SIMHADRI DEEPIKA REDDY
6	190040289	MADDALI VISWA MOHANA GOVINDA GURU CHARAN
7	190040070	BURRA VAMSI KRISHNA
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9	190040589	YERRAGURAVAGARI PUJITHA
10	190040555	VELUGOTI YESWANTH SAI KUMAR
11	190040067	BUDDHIRAJU RAGHURAM
12	190040453	SANGETA SATYA SWETHA DEVI
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20	190040240	KOMATINENI PRAVEEN
21	190040381	PADI HARSHITH
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24	190040543	VALLURU VAMSI SAI KRISHNA
25	190040601	PITTA TARUN KUMAR
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29	190040318	MAREM PADMA PRANEETH
30	190049025	RAVURI ANUSHA
31	190040209	KAPARAPU LAKSHMI NAVEENA
32	190040024	ANDHAVARAPU VAMSI
33	190040491	SRI LAKSHMI CHILUKURI
34	190040314	MANUKONDA LOHITH KUMAR
35	190040188	JAVVADI SRINIVAS
36	190040265	KOTHAKONDA NAGASAI DWARAKA KRISHNA
37	190040362	NARANDAS VIJAYA LAKSHMI

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44	190040196	KALLAKURI KALKI SAI
45	190040333	ARSHIA
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47	190040192	KAKARLA ANJALI
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