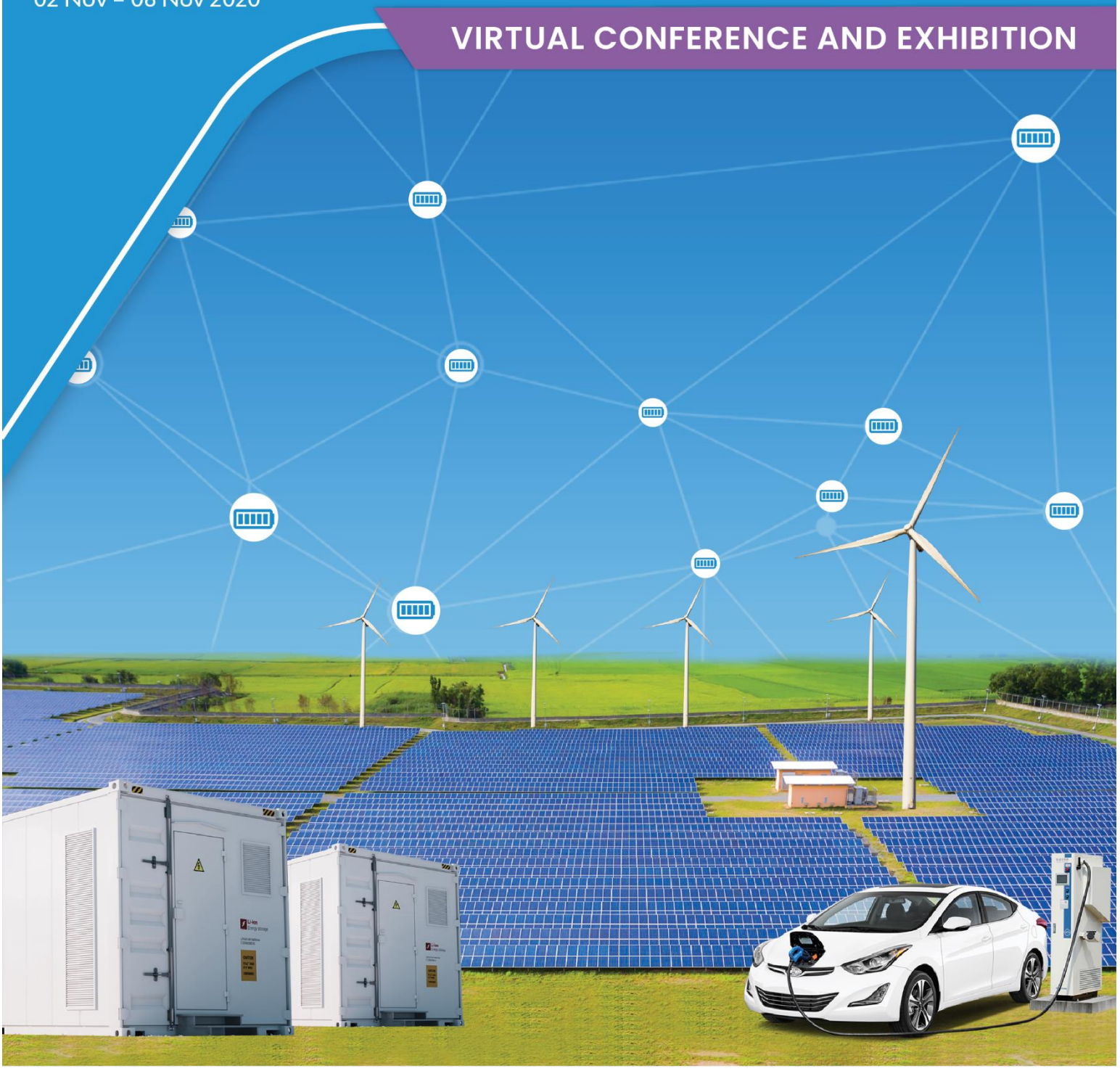
INDIA ENERGY STORAGE WEEK

INTERNATIONAL CONFERENCE & EXHIBITION ON ENERGY STORAGE, EV & MICROGRIDS IN INDIA

02 Nov – 06 Nov 2020

VIRTUAL CONFERENCE AND EXHIBITION



IESW 2020: SHOW GUIDE

www.iesw.in | www.energystorageweek.in

OUR PARTNERS

NITI Aayog

DST@ 1971-2021 — Department of Science & Technology

Ministry of Electronics and Information Technology, Government of India

Organized by

IESA — India Energy Storage Alliance

Powered by

Customized Energy Solutions — Analyze · Simplify · Implement

Host Media Partner

ETN — Emerging Technology News

Knowledge Partner

Applied Materials — make possible

CSIR-Central Electrochemical Research Institute — (A premier R&D Institute in Electrochemistry)

Session Partner

i-EM

Silver Partner

Fortum charge & drive

Bronze Partner

SCHALTBAU — Connect Contact Control

Associate Partner

VJTI tbi

DÜRR — MEGTEC

Innovation partners

UNIDO — United Nations Industrial Development Organization

FLOTD — Promoting Innovation and Deployment of Low Carbon Technologies

Workshop Partner

AREAS CLEAN

Expo Partners

EXICOM Power Solutions

LHS

Diabatix

AIsyte

Marjan Machinery — robotic solar panel cleaning technology

OrxaGrid

Monter Technologies®

JD | ENERBIZ PRIVATE LIMITED

Start-up Partners

startupindia

New Energy Nexus

Invest India — National Investment Promotion & Facilitation Agency

agnii

TiE Global

MEITY STARTUP HUB

Country Partners

BUSINESS FINLAND

GREAT for a SUSTAINABLE future

Innovation Norway

NEDO

SCOTTISH DEVELOPMENT INTERNATIONAL

Supporting Partners

Alliance for an Energy Efficient Economy

Alliance for Rural Electrification — Shining a Light for Progress

ARAI — Progress through Research

CNESA — China Energy Storage Alliance

EASE — European Association for Storage of Energy

GESA — Global Energy Storage Alliance

igef — Indo-German Energy Forum

ISGF — India Smart Grid Forum

NSEFI

AMARA RAJA
Gotta be a better way

ECONERGY


Ebonyi State University, Nigeria

Energy Storage Systems

- Commissioned a 2.8MW, 8.4 MWh solar hybrid Energy Storage System built using Amara Raja batteries in Ebonyi on Aug 2, 2019.
- First solar hybrid power project under the Energizing Education Programme (EEP) at the Ebonyi State University.
- The Energy Storage system was built using Amara Raja's "Amaron Volt" advanced Lead Acid Batteries.
- 40MWh, they would be among the largest Lead Acid Based Energy Storage systems in the world.
- The project is expected to serve 7,700 students and 1,819 faculty staff at FUNAI and will help them access clean reliable energy from the university's 2.8MW solar hybrid power plant. This project also provides energy for 7.2Km of Street Lighting. The annual carbon dioxide emission savings are expected to be 8.2 Million Lbs.
- The Energy Storage Systems helps bring "light" and "development" to the remote corners of the world and to the needy people.

ENERGY MANAGEMENT ADVANCED ANALYTICS

Providing solutions for **optimal and fast human decision making** for **renewables**, **smartgrid & microgrid** and **e-Mobility**

800+
RENEWABLE PLANTS

5GW
TOTAL INSTALLED POWER

24
NATIONS

i-EM
Intelligence in Energy Management

info@i-em.eu | sales@i-em.eu

Headquarters
Via A. Lampredi 45 – 57121, Livorno (LI) Italy

UK Office
Building R104, Rutherford Appleton Laboratory, Harwell Campus, Didcot, Oxfordshire, OX11 0QX (UK)

FOR MORE VISIT OUR SITE i-em.eu

Fortum charge & drive

Fortum Charge & Drive is a clean energy company and has embarked upon a journey in India to transform mobility by providing Energy as a Service to Electrical Vehicles through deployment of public charging infrastructure.

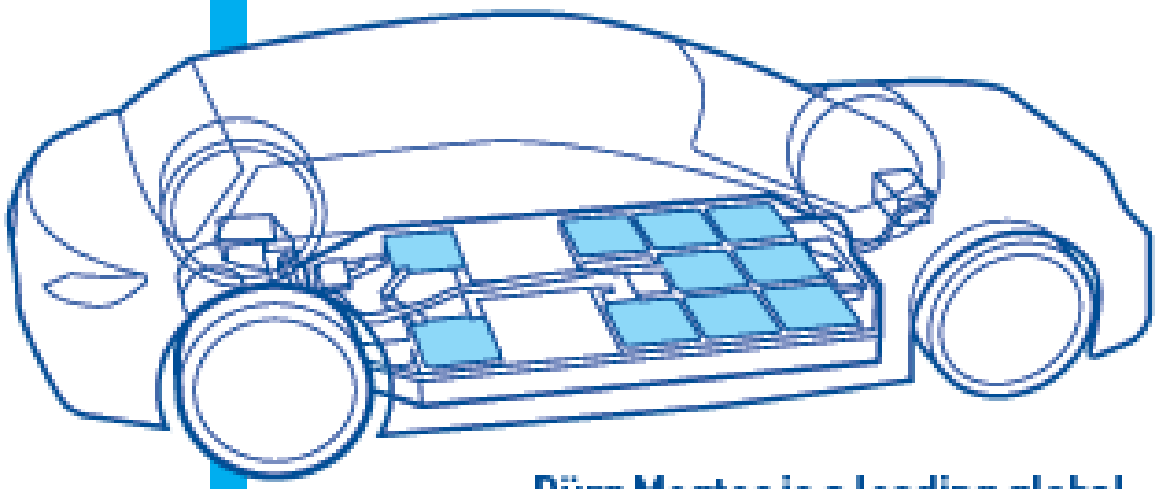
Currently we are operating 73 charging points across 39 locations in 7 major cities of India. We have also launched a pilot project of Battery Swapping for 3 –wheelers.

Fortum Charge & Drive also offers its proprietary Charger Management System as SaaS for managing charging network compatible with Open Charge Point Protocol (OCPP) to other Charge Point Operators.

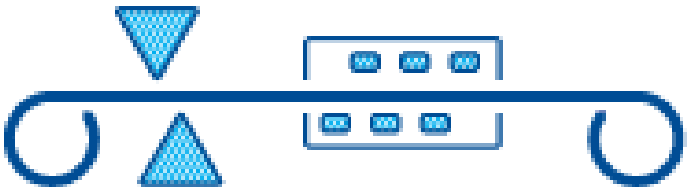
We are also exploring Home and Destination charging segment to cater to all requirements of an EV user and be a One-Stop solution for all their charging needs.

DÜRR MEGTEC

Battery electrode manufacturing experts



Dürr Megtec is a leading global supplier of comprehensive turnkey approaches for producing battery electrode coated materials. Our solutions improve quality, cost-effectiveness and speed-to-market.



Patented simultaneous 2-sided coating system.

www.durr-megtec.com

Battery Management Systems and Connected Software with New Gen electric mobility storage

EXICOM POWER SOLUTIONS

Giving you the freedom to

GO ELECTRIC !

Home chargers, Fast DC Chargers and Charger Management System

2nd Nov | Pre-conference Workshop

Time (IST)	Hall 1	Hall 2
10:00 - 12:00	**Energy Storage 101** (Current Technology Landscape & Future Developments)	**EV & Charging Infra Technology 101**
12:00 - 12:30	**Networking Break**	
12:30 - 14:30	**Workshop on Minigrids /Microgrids for Economic Development for Local Communities** (Powered by MICRO Initiative)	**IESA-UNIDO ESS Innovation Workshop** (Supported By UNIDO)
14:00 - 16:00	**IESA Women in Energy Storage & EV Forum** (Powered by IESA WE (Women in Energy Initiative) (Separate online platform | Open for All)	
14:30 - 15:00	**Networking Break**	
15:00 - 18:00	**15:00 -17:00 IST** **Workshop on 24X7 RE for Indian Electricity Grid** (Jointly Organised by IESA, Association of Renewable Energy Agencies of State, AREAS)	**16:00 -18:00 IST** **Hydrogen Economy and India – Nordic Collaboration** (Supported By Innovation Norway and Business Finland)

Energy Storage 101 (Current Technology Landscape & Future Developments)

Hall 1 | 10:00 Hours- 12:00 Hours IST | 2nd November

Session	Speakers
Energy Storage Technologies Trends	**Dr. Satyajit Phadke**, Manager - R&D, CES
Li-ion Batteries	**Dr. K Ramesha**, Senior Principal Scientist, CSIR-CECRI
Flow Batteries	**Avishek Kumar**, Co-Founder and CEO, V-Flow Tech Pvt. Ltd.
Fly Wheel	**Michael Willemot**, Chief Financial Officer, Oxto Energy
Sodium Batteries	**Dr. Dhamodaran Santhanagopalan**, Ramanujan Fellow & Associate Professor, Centre for Nanosciences and Molecular Medicine, Amrita Vishwa Vidyapeetham, Kochi India
Zinc Batteries	**Dr. Balakrishnan G. Iyer**, Chief Commercial Officer, Eos Energy Storage
Thermal Storage	**Vishnu Sasidharan**, Vice President - New Product Initiatives, Pluss Advanced Technologies Pvt. Ltd.
Metal Air	**Dr. Avi Yadgar**, Chief Technology Officer, Phinergy
Lead Acid and Advance Lead Acid Batteries	**Kuladeep Machavolu**, New Technology Manager, Amara Raja Group

EV & Charging Infra Technology 101

Hall 2 | 10:00 Hours- 12:00 Hours IST | 2nd November

Session	Speakers
Electric Vehicle Technology	▪ **Rohit Kumar**, Senior Consultant, CES ▪ **Manoj Desai**, General Manager, Automotive Research Association of India (ARAI) ▪ **Madhan B N**, CEO & Co-Founder, Volta Automotive India Pvt Ltd (VAIPL)
Charging & Swapping	▪ **Pradeep Saini**, Sr. Analyst, CES ▪ **Akhila Vijaykumar**, Co-founder and Head (Operations), Esmito Solutions ▪ **Deepak Kashyap -** Regional Marketing Manager, Automotive segment, NXP Semiconductors

Workshop on Techno-Economic Performance of Minigrids in India
(Powered by MICRO Initiative, supported by ARE & CLEAN)

Hall 1 | 12:30 Hours – 14:30 Hours IST | 2nd November

Session	Speakers
Workshop on Techno-Economic performance of Minigrids in India. ▪ Plant generation, Storage and PND network ▪ Economic dimension of minigrids in the Indian context ▪ Observations, experience, and lesson learned from the field	**Moderator:** ▪ **Nitin Akhade**, Manager, MICRO, Customized Energy Solutions **Panellists:** ▪ **Mr. Prasad Kulkarni**, Co-Founder, Head Technical, Gram Oorja Solutions Pvt Ltd (Plant Generation and PND system) ▪ **Sudeshna** Mukherjee, Director of Operations, Hamara Grid Pvt Ltd (Economic ecosystem development via minigrids) ▪ **Rahul Shelke**, Founder and Managing Director, Amperehour Energy *(Lesson learnt from Auditing of Minigrids)* ▪ **Mr. Rajarshi Sen**, Technical Advisor, Customized Energy Solutions *(Energy Storage in Mini grids – Challenges and Opportunities)* ▪ **Mr. Jens Jaeger**, Policy & Business Development Manager, Alliance for Rural Electrification (ARE) *(Factors enabling Scaling of the Minigrids)* ▪ **Brigadier Pasricha**, Indian Army* (Diesel Replacement – Opportunity for Minigrids sector)

IESA-UNIDO ESS Innovation Workshop

(Jointly Organized by IESA, Customized Energy Solutions, UNIDO)

Hall 2 | 12:30 Hours – 14:30 Hours IST | 2nd November

Time	Discussion Points	Speakers
12:30 - 12:45 Hrs	**Brief about IESA-UNIDO Start-Up workshop** • Eligibility Criteria for Startups in the Innovation Challenge • Incubation, Accelerator, Mentorship	▪ **Dr Rahul Walawalkar**, President & MD, Customized Energy Solutions and President, IESA
12:45 - 13:15 Hrs	**Introduction to FLCTD project and Innovation Challenge** • Program Objective and Structure • Benefits offered • Application Process	▪ **Sandeep Tandon**, National Project Manager, FLCTD Project, UNIDO
13:15 - 14:15 Hrs	**Innovations in Energy Storage Solutions Technologies and its Applications** • New research • Indigenous R&D • Objective of pilot projects	**Panellists:** ▪ **Arghya Sardar**, Scientist F and Head Technology Foresight for Automotive R&D (TFAR) at TIFAC ▪ **Dr P C Pant**, Former Advisor, MNRE ▪ **Dr H Purushotham**, Former Chairman & MD, NRDC
14:15 - 14:30 Hrs	**Past Winners Insight** • Experience of the program • Value generated, and exposure received	▪ **Mr Rajat Gupta**, Founder and Director, TESSOL

Workshop on Role of Energy Storage for Moving Towards 24*7 Renewables

[Jointly Organised by IESA, Association of Renewable Energy Agencies of State (AREAS)]

Hall 1 | 16:00 Hours- 18:00 Hours IST | 2nd November

Time	Topic	Speaker
16:00 – 16:10 Hrs	**Welcome Address**	**Shri. J. K. Jethani**, Executive Director(I/C) Association of Renewable Energy Agencies of State (AREAS)
16:10 – 16:20 Hrs	**Theme Talk**	**Dr. Rahul Walawalkar**, President, IESA
16:20 – 16:40 Hrs	**Keynote Address**	**Shri. Indu Shekhar Chaturvedi**, Secretary, MNRE*
16:40 – 18:00 Hrs	**Brainstorming Session** • Promotion of ES technologies: Do we require separate RPO for 24x7 RE power?"	**Moderator:** • **Pankaj Batra**, Ex-Chairperson (I/c) & Member (Planning), Central Electricity Authority, and Ex-Officio Additional Secretary to Govt. of India, Chairperson of the BIS Committee of LITD 10 **Panellists (Invited):** • **Vijay Menghani**, Chief (Engineering), CERC* • **S K Soonee**, Advisor, Power System Operation Corporation (POSOCO)* • **Subir Sen**, Chief Operating Officer (CTU Planning), Power Grid Corporation of India Ltd* • **Shri. M. A. Pise**, General Manager, Maharashtra Energy Development Agency (MEDA)* • **Tmt. K.R. Mallikha**, General Manager, Tamil Nadu Energy Development Agency (TEDA)* • **Shri. B. B. Mehta**, Director (SLDC), Odisha Power Transmission Corporation Limited (OPTCL) • **Sandhya Sundararagavan**, Lead, Energy Transitions, WRI India • **Ashwin Gambhir**, Fellow, Prayas, Pune • **Aditya Trivedi**, Director Business Development, AES • **Amit Saklani**, Head- Energy Storage, SB Energy (SoftBank Group) • **Rahul Jain**, Head of Energy Storage, ReNew Power

Session on Hydrogen Economy and India – Nordic Collaboration

(Jointly Organised by IESA, Innovation Norway and Business Finland)

Hall 2 | 15:00 Hours- 17:00 Hours IST | 11:30 Hours – 13:30 Hours CEST | 2nd November

Time	Session	Speakers
15:00 - 16:00 Hrs IST/ 11:30 – 12:30 Hrs CEST	**Technology Collaboration on Green Hydrogen** ▪ Solid Oxide fuel cell ▪ Cost trends ▪ Electrolysis ▪ Challenges & new research	**Session Chair & Moderator** ▪ **Helge Tryti**, Director Business Development South Asia - Innovation Norway **Panelist:** ▪ **Dr. Satyajit Phadke**, Manager, R&D, Customized Energy Solutions ▪ **Prof. Koushik Biswas**, Professor, Metallurgical and Materials Engineering, IIT Kharagpur ▪ **Dr. Kaushik Jayasayee**, Sr. Research Scientist - SINTEF ▪ **Dr. Jari Ihonen**, Principal Scientist, VTT Technical Research Center of Finland
16:00 - 17:00 Hours IST 12:30 – 13:30 Hours CEST	**India-Nordic Industry Co-operation** ▪ Stationary applications for Industrial consumers ▪ Fuel cell & mobility application	**Session Chair & Opening Remarks** ▪ **Ms. Halena Sareen**, Head Smart Energy Finland Program, Business Finland **Panelist:** ▪ **Aditya Poudyal**, Business developmet, Hydrogen – Fortum ▪ **Siddharth R Mayur**, Founder, MD & CEO, H2E Power Systems ▪ **Mr. Trond Strømgren**, Senior Advisor RE and Hydrogen Value Chain, Head R&D, Ocean Hyway Cluster

IESA Women in Energy Storage & EV Forum

(Powered by IESA-WE (Women in Energy Initiate)

Separate Platform | 14:00 – 16:00 Hours IST | 2nd November

Time	Session	Speakers
14:00 - 15:00 Hrs IST	▪ Welcome Remarks ▪ ''Becoming a person of influence'' ▪ Introduction: IESA WE (Women Network)	**Welcome Remarks:** ▪ **Netra Walawalkar**, Director, India Markets, Customized Energy Solutions **Key Speakers:** ▪ **Rashmi Urdhwareshe**, Former Director at Automotive Research Association of India ▪ **Sulajja Firodia Motwani**, Founder and CEO of Kinetic Green Energy & Power Solutions ▪ **Dr Shalini Sarin**, Executive Director, Elektromobilitat India ▪ **Christine Lins**, Co-founder and Executive Director, Global Women's Network for Energy Transition
15:00 - 16:00 Hrs IST	▪ Round Table & Open Discussion: ▪ Leadership, Challenges, Diversity & Inclusion	▪ **Hema Annamalai**, Chair – TiE Women Global, Former CEO - Ampere Vehicles. ▪ **Dr Rashi Gupta**, Founder & Director, Vision Mechatronics Private Ltd ▪ **Mirunalini Chellapan**, Director, SWELECT Energy Systems Ltd ▪ **Mani Khurana**, Senior Energy Specialist, The World Bank

This session is open for all and register at
https://register.gotowebinar.com/#register/7951478287130254093

AtmaNirbhar Bharat - Energy Storage & EV Manufacturing

Hall 1 | 10:00 – 18:00 Hours IST | 3rd November 2020

Time (IST)	Topic & Discussion points	Speakers
10:00- 11:15 Hrs	**Regulatory and Policy Outlook on Energy Storage and EV Manufacturing** ▪ Central policy/ schemes/ regulatory overview - reasoning, coverage, and results ▪ Updates on the ongoing/ upcoming policies/ schemes by the Central & State Govt. ▪ Implementation roadblocks (industry's sentiments, financial assistance, domestic capability etc., and road ahead.)	**Moderator:** ▪ **Dr Rahul Walawalkar**, President & MD, CES, India **Keynote Talk:** ▪ **Shri Suresh Prabhu**, Member of Parliament (Rajya Shabha), Indian emissary to G20 & G7 **Panellists:** ▪ **Shri Sanjeev Chawla**, Director, Ministry of Micro, Small and Medium Enterprises (MSME) ▪ **Dr Ashok Jhunjhunwala**, Professor, IIT Madras ▪ **Aman Hans**, Public Private Partnership Specialist, Consultant, NITI Aayog*
11:15 - 11:30 Hrs	**IESA Vision for AtmaNirbhar Bharat - Energy Storage & EV Manufacturing**	▪ **Dr Rahul Walawalkar**, President & MD, CES, India
11:30 – 11:45 Hrs	**Networking Break**	
11:45 – 13:00 Hrs	**Supply Chain (Raw Materials, equipment's & components) & Global Manufacturing** ▪ Overview of the supply chain – domestic market, import dependency, demand. ▪ Sector opportunities and challenges – Government & Industry perspective. ▪ Global Scenario - Best Practices - Country's Policy/ Company Strategy and Lessons learnt from non-fruition experiences. ▪ Global investors suitable for Indian ecosystem for collaboration.	**Moderator:** ▪ **Dr Satyajit Phadke**, Manager (R&D), CES, India **Panellists:** ▪ **Mr Brieux Boisdequin**, VP- South Asia, Aumtomotive & Materials, BASF ▪ **Mr David Ventola**, Business Development Director, Technology & Development, Dürr Systems USA ▪ **Dr. Subramanya Herle**, Director, Distinguished Member of Technical Staff, Office of the CTO, Applied Materials ▪ **Mr. Naveen Kumar Srivastava**, Director – Manikaran Lithium; President – Strategy, Manikaran Power Limited
13:00 – 13:30 Hrs	**Networking Break**	

13:30-14:45 Hrs	**Recycle & Reuse (Second Life of battery packs and recycling)** ▪ Battery handling and disposal environmental laws and regulations • Scrappage policy or vehicle scrappage value index • Recycling technology and its commercialization avenues • Domestic and International best practices	**Moderator:** ▪ **Dr Tanmay Sarkar**, Senior Consultant, CES, India **Panellists:** ▪ **Shri Samrat Sengupta**, Programme Director, Climate Change & Renewable Energy, CSE ▪ **Shri Nitin Gupta**, Co-Founder and CEO, Attero ▪ **Dr. Dhamodaran Santhanagopalan**, Ramanujan Fellow & Associate Professor, Centre for Nanosciences and Molecular Medicine, Amrita Vishwa Vidyapeetham, Kochi, India
14:45 – 15:00 Hrs	**Networking Break**	
15:00-16:15 Hrs	**Skill Development & Capacity building** ▪ Industry skill demand and availability of skill work force ▪ Central and state level coordination for capacity building ▪ How technical courses/ online programs could bridge the gap?	**Moderator:** ▪ **Shri Debi Prasad Dash**, Executive Director, IESA **Panellists:** ▪ **Shri Shanmugam**, CEO, SAE ▪ **Dr K C Vora**, Head, ARAI Academy ▪ **Dr R Harikumar**, Director in Charge, EMC, Kerala ▪ **Dr Adinath M Funde**, Assistant Professor, School of Energy Studies, Savitribai Phule Pune University
16:15 – 16:30 Hrs	**Networking Break**	
16:30- 17:45 Hrs	**Make in India (CXO's perspective on Indigenous Manufacturing)** ▪ Expectations of Make in India and government initiatives ▪ Energy Storage manufacturing opportunities and challenges - Industry opinion ▪ Electric Vehicle manufacturing opportunities and challenges - Industry opinion ▪ Short term action pointers and long-term strategy	**Moderator** ▪ **Dr Rahul Walawalkar**, President & MD, CES, India **Session Chair:** ▪ **Shri Saurabh Gaur**, Joint Secretary, (ET, Electronics), MeitY **Panellists:** ▪ **Shri Rakesh Malhotra**, Founder, SAR Group ▪ **Shri Vijayanand S**, CEO, Amara Raja Group ▪ **Shri Anant Nahata**, MD, Exicom*
17:45 – 18:00 Hrs	**Closing Remarks**	

Stationary Energy Storage India (SESI)

Hall 1 | 10:00 – 18:00 Hours | 4th November 2020

Time (IST)	Topic & Discussion points	Speakers
10:00 - 11:15 Hrs	**Regulatory & Policy** ▪ India's wind, solar, hybrid policy ▪ State- level policies and inclusion of energy storage ▪ Role of CEA, CERC, MoP in the energy transition ▪ Facilitating RTC tenders to be sustainable ▪ Policy requirement of ancillary market ▪ What are the present challenges in the market today? ▪ What approaches is the government taking to boost back investments	**Moderator:** ▪ **Dr. Rahul Tongia**, Senior Fellow, CSEP **Panellists:** ▪ **Shri Ravinder Singh Dhillon**, Chairman and Managing Director (CMD), Power Finance Corporation (PFC) ▪ **Ganesh Srinivasan**, CEO, Tata Power DDL ▪ **Rohit Modi**, Country Head & President – India, SB Energy ▪ **Dr. Rahul Walawalkar**, President & MD, CES India
11:15 - 11:30 Hrs	**IESA Vision Energy Storage Adoption for RE, Grid & BTM and Market Opportunities**	▪ **Debmalya Sen**, Senior Consultant, CES India
11:30 - 11:45 Hrs	**Networking Break**	
11:45 - 13:00 Hrs	**Grid Level Energy Storage Integration** ▪ Global Project Experience ▪ Learnings from projects ▪ Thoughts on projects going forward ▪ Energy storage opportunities at various levels in Grid (G-T-D) ▪ How can we make this transition sustainable? ▪ What are the present challenges in the market penetration?	**Moderator:** ▪ **Debmalya Sen**, Senior Consultant, CES India **Panellists:** ▪ **Sanjay Banga**, President T&D, Tata Power ▪ **Dr. Y.B.K Reddy**, Additional General Manager, SECI ▪ **Rajendra Shrivastav**, President & Market Business Leader, AES India ▪ **Shashank Adlakha**, Senior VP, Renew Power
13:00 - 13:30 Hrs	**Networking Break**	

13:30 - 14:45 Hrs	**Behind the Meter (BTM) & DER** • Role of energy storage in BTM applications and the market • Rooftop PV + Storage - the upcoming market? ▪ Power quality and reliability improvements through ESS ▪ Technologies in the race beyond lithium-ion ▪ Micro- and mini-grid market and applications	**Moderator:** ▪ **Debi Prasad Dash**, Executive Director, IESA **Panellists:** ▪ **Adarsh Das**, Director & CEO, SunSource Energy ▪ **Sameer Gupta**, Chairman & MD , Jakson Group ▪ **Ketan Chitnis**, Vice President – Stationary BU, Exide Leclanche Energy Pvt Ltd ▪ **Raghunath VC**, Company Director, SWELECT ▪ **Niranjan C**, Dy. General Manager, Amara Raja Batteries Ltd
14:45 - 15:00 Hrs	**Networking Break**	
15:00 - 16:15 Hrs	**Asset Management - Analytics & Digitization** ▪ How to optimize O&M and improve asset life through analytics and digitization avenues? ▪ What are the potential software platforms in the market today and how is it giving benefits for operational projects? ▪ Operational case studies ▪ How is analytics and digitization helping in optimizing on O&M costs and making fault detection easier?	**Moderator:** ▪ **Jitendra Kulkarni**, Vice President – Innovation, SB Energy **Panellists:** ▪ **Vish Ganti**, Vice President & MD, AutoGrid India ▪ **Andrew Bray**, BD & Sales Manager, i-EM ▪ **GK Ramakrishnan**, General Manager, Wartsila India ▪ **Rahul Pendharkar**, Director – ET, CES
16:15 - 16:30 Hrs	**Networking Break**	
16:30 - 17:45 Hrs	**Financing Storage Projects** ▪ How receptive are financial institutions today towards the present transition over energy storage? ▪ What are the present challenges and how are banking institutions working to solve them? ▪ What kind of financing instruments are being prevalent in the market? ▪ What more do the industry need to do to promote investments?	**Moderator:** ▪ **Kanika Chawla**, Fellow & Director - Centre for Energy Finance, CEEW **Panellists:** ▪ **Isabel Chatterton**, Regional Industry Director, Infrastructure and Natural Resources, Asia and Pacific, IFC ▪ **Mani Khurana**, Sr. Energy Specialist, The World Bank ▪ **Sunil Jain**, CEO & ED, Hero Future Energies ▪ **Vinayak Walimbe**, Vice President, CES
17: 45 – 18: 00 Hrs	**Closing Remarks**	

India e-Mobility (Electric Vehicle & Charging Infrastructure) Conclave

Hall 1 | 10:00 – 18:00 Hours | 5th November 2020

Time (IST)	Topic & Discussion points	Speakers
10:00 - 11:15 Hrs	**Regulatory and Policy** ▪ NEMMP, FAME I, II, Phased Manufacturing Program, NMTM&BS ▪ State level EV policy ▪ Challenges in policy on battery swapping. a. GST on batteries. b. Insurance and warranty on batteries c. Interoperability d. Coverage of retrofitted solutions with AIS certification e. General Case: Release of Scrappage Policy	**Moderator:** ▪ **O. P. Agarwal**, CEO, World Resources Institute (WRI) **Panellists:** ▪ **Anil Srivastava**, Pr. Consultant & Mission Director, NITI Aayog ▪ **Jayesh Ranjan IAS**, Principal Secretary to Govt. of Telangana, Industries & Commerce (I&C) and IT, Electronics & Communications Department ▪ **Anand Deshpande**, Sr. Deputy Director & Head (Automotive Electronics), Automotive Research Association of India (ARAI) ▪ **Shri Sameer Pandita**, Director, Bureau of Energy Efficiency (BEE)
11:15 - 11:30 Hrs	**IESA Vision for Electric Vehicle & Charging Infra Adoption & Market Opportunities**	
11: 30 – 11: 45 Hrs	**Networking Break**	
11:45 – 13:00 Hrs	**Electric Mobility 360 (OEM's perspective: e-2W, e-3W, e-4W, CV: LCV, Bus)** ▪ Pandemic and digitization effect on consumer behaviour ▪ Market side: demand segments and exports opportunities. ▪ EV financing ▪ Technology & Ecosystem: Platformization strategy of OEMs. ▪ For e-bus segment STUs application: catering to affordable public transport segment without raising ticket prices	**Moderator:** • **Ashok Thakur**, Chief Editor, ETN Magazine, Customized Energy Solutions **Panellists:** ▪ **Naveen Munjal**, Managing Director, Hero Electric Vehicles Pvt Ltd ▪ **Sulajja Firodia Motwani**, Founder & CEO, Kinetic Green Energy & Power Solutions ▪ **Vikram Gulati**, Country Head and Senior Vice President, Toyota Kirloskar Motor ▪ **Sandith Thandasherry**, CEO, NavAlt Solar & Electric Boats Pvt Ltd
13: 00 – 13: 30 Hrs	**Networking Break**	

13:30-14:45 Hrs	**EV Components, Power train and other opportunities for Indian manufacturers** ▪ Strengthening domestic value chain for components ▪ Ecosystem gaps in supply chain ▪ Policy interventions required, R&D Incentives and Standardization (connectors, power rating, range, safety, and energy: e.g. STAR rating in consumer electronics) ▪ Localization challenges, cost reduction strategies, contract manufacturing, battery as a service ▪ Strategic alliances and partnerships among OEMs, technology suppliers, and internet-tech ecosystem ▪ Vertical integration and its benefits	**Moderator:** ▪ **Rohit Kumar**, Sr. Consultant, Customized Energy Solutions **Panellists:** ▪ **Guruprasad Mudlapur**, Managing Director, Bosch Automotive Electronics India Pvt Ltd ▪ **Paras Kaushal**, Co-founder & COO, Cell Propulsion ▪ **Arvind Goel**, MD & CEO, Tata AutoComp Systems Ltd ▪ **Babu K. S. V.**, Head - e-mobility, Automotive Motors, Cooling Solutions & Export, Lucas TVS ▪ **Douglas Watson**, Non – Executive Director, CityEV
14:45 – 15:00 Hrs	**Networking Break**	

15:00 -16:15 Hrs	**Charging Infrastructure and Battery Swapping** ▪ Public awareness challenges ▪ Business models of charging infrastructure companies ▪ TCO economics: Improvements with battery swapping. ▪ Utility led charging infrastructure: residential, commercial vs swapping and public fast charging network ▪ Roles of utility companies in customer connect, demand aggregation, project implementation and operations ▪ Standardization of charging equipment and safety protocols ▪ Grid balancing for bus charging infrastructure	**Moderator:** ▪ **Shri Reji Pilai**, President, India Smart Grid Forum (ISGF), Chairman, Global Smart Energy Federation **Panellists:** ▪ **Anshul Gupta**, Director, Okaya Power Group ▪ **Priyank Agarwal**, Vice President -Strategy & Business Development, Exicom ▪ **Awadhesh Jha**, Vice President – Charge & Drive and Sustainability, Fortum India ▪ **Stephen Boyd**, Commercial Director, Boyd Brothers ▪ **Ian Mackenzie**, CEO of Trojan Energy Ltd.
16:15 – 16:30 Hrs	"The SunPedal Ride - Golden Quadrilateral" Journey Key Findings - Driving a three-wheeler electric retrofitted auto rickshaw for 6000+ kms in India by Mr. Sushil Reddy	
16:30 – 17:45 Hrs	**EV Adoption in India and Users Perspective** ▪ EV Adoption: A users' perspective ▪ Driving Factors of EV Adoption: CO2/Emission targets and TCO economics ▪ Challenges looking forward: Energy, infrastructure, and e-mobility ▪ Strategy for getting zero emission vans and trucks on the road	**Moderator:** ▪ **Netra Walawalkar**, Director – India Markets, Customized Energy Solutions **Panellists:** ▪ **D.G. Salpekar**, Chief General Manager (Technical), Energy Efficiency Services Limited (EESL) ▪ **Anmol Jaggi**, CEO, BluSmart Mobility ▪ **Aditya Ramji**, Senior Economist, Managing Director's office, Mahindra & Mahindra Ltd ▪ **Nishant Saini**, Founder & Managing Director, eee-Taxi ▪ **Prasanna Patwardhan**, Chairperson & Managing Director, The Prasanna Group; President, BOCI ▪ **Dr. Jyotirmoy Roy**, Founder & CEO, GreenEnco Ltd
17:45 – 18:00 Hrs	**Closing Remarks**	

Energy Storage & EV R&D Summit

Hall 1 | 10:00 – 18:00 Hours | 6th November 2020

Time (IST)	Topic & Discussion points	Speakers
10:00 - 11:15 Hrs	**Indian R&D ecosystem & industry - academic partnership on storage technology research** ▪ Battery research status in India ▪ Government initiatives on battery research	**Moderator** ▪ **Dr. Satyajit Phadke**, Manager, R&D, Customized Energy Solutions **Session Chair** ▪ **Shri V K Saraswat**, Member, NITI Aayog (Padma Shri, Padma Bhushan) **Panelist** ▪ **Dr. Sandip Chatterjee**, Director/ Scientist F, Ministry of Electronics and Information Technology ▪ **Dr. Sajid Mubashi**r, Scientist G, Dept. of Science & Technology ▪ **Dr. N. Kalaiselvi, Director**, CSIR-CECRI ▪ **Dr. Sarin Sundar Kuppuswamy**, Principal Investigator, Applied Materials
11:15-11:30 Hrs	**Vision for Energy Storage & EV R&D for India**	**Dr. Satyajit Phadke**, Manager, R&D, Customized Energy Solutions
11:30 – 11: 45 Hrs	**Networking Break**	
11:45 - 13:00 Hrs	**Advancement of Battery Technologies and Recycling** ▪ Advancement of LIB/Na-ion/Mg-ion battery ▪ Solid-state battery ▪ Metal-air battery ▪ High-temperature battery	**Moderator** ▪ **Dr. N. Kalaiselvi**, Director, CSIR-CECRI **Panelist** ▪ **Dr. R.Gopalan**, Regional Director, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) ▪ **Prof. Suddhasatwa Basu**, Director of CSIR, Institute of Minerals & Material Technology (IMMT) ▪ **Dr. Alistair Davidson**, Director, Consortium for Battery Innovation (CBI) ▪ **Prof. Palani Balaya**, National University of Singapore (NUS) ▪ **Dr. Bharat B. Kale**, Director, Centre for Materials for Electronics Technology (CMET) ▪ **Dr. Ramaswamy Murugan**, Professor, Dept. of Physics, Pondicherry University
13:00 – 13:30 Hrs	**Networking Break**	

13:30 - 14:45 Hrs	**Technological Readiness of Hydrogen Storage for Stationary and EV Applications** ▪ Research status on hydrogen storage including electrolyser ▪ Hydrogen storage infrastructure ▪ Fuel cell for stationary storage	**Moderator:** ▪ **Dr. Satyajit Phadke**, Manager, R&D, CES **Panellists:** ▪ **Anuradda Ganesh**, Chief Technical Advisor and Director, Cummins TECHNOLOGIES India Pvt Ltd ▪ **Dr. Julius von der Ohe (né Scholz)**, Programme Manager International Energy Concepts, NOW GmbH ▪ **Nigel Homes**, CEO, Scottish Hydrogen and Fuel Cell Association ▪ **Prof. Raj Ganesh S. Pala**, Professor - Dept of Chemistry, IIT Kanpur
14: 45 – 15:00 Hrs	**Networking Break**	
15:00 - 16:15 Hrs	**Importance of R&D for Advanced BMS, Thermal Management, Datamining, AI to Address Safety and Better Performance** ▪ BMS ▪ Thermal management ▪ Multiscale modelling ▪ AI and data mining research in e-mobility space	**Moderator:** ▪ **Dr. Tanmay Sarkar**, Sr. Consultant, Customized Energy Solutions **Panellists:** ▪ **Mark Hartmann**, CTO, Latent Heat Solutions LLC (LHS) ▪ **Samit Jain**, Managing Director, Pluss Advance Technologies Pvt Ltd ▪ **Dr. Judy Jeevarajan**, Research Director, Electrochemical Safety, Underwriters laboratories (UL) ▪ **Dr. Kaushal**, Sr. Project Advisor in C-BEEV, IIT Madras*
16:15 – 16:30 Hrs	**Networking Break**	
16:30 - 17:45 Hrs	**Drivetrain and EV Components-related Research to Improve Performance of EVs**	**Moderator:** ▪ **Dr. Rahul Walawalkar**, President, IESA; President & MD, CES India **Panellists:** ▪ **Dr. A K Jindal**, Advisor E-Mobility, New Products and Technology, TATA AutoComp Systems ▪ **Raminder Singh**, Managing Director & CEO, Schaltbau India Pvt Ltd ▪ **Shreyas Seethapathy**, Team Lead - Battery Engineering, Ather Energy ▪ **Prof. C. S. Shankar Ram**, Professor, IIT Madras
17:45 – 18:00 Hrs	**Closing Remarks**	

Energy Storage & EV Investment Summit

Hall 2 | 10:00 – 15:30 Hours | 6th November 2020

Time (IST)	Topic & Discussion Points	Speakers
10:00 - 11:00 Hrs	**Early-stage Investment in Startups** ▪ Angel Investment ▪ Role of incubation and accelerator ▪ Investment in early stage startups ▪ Investment by family offices & diversification by conglomerates	**Moderator:** • **Dr. Rahul Walawalkar**, President, IESA; President & MD, CES India **Session Chair:** • **Dr. Ajai Kumar Garg**, Director, MeitY Startup Hub (MSH) **Panellists:** ▪ **Mahavir Pratap Sharma**, Chairman, TiE Global ▪ **Danny Kennedy**, CEO, New Energy Nexus ▪ **Sidharth Choudhary**, AVP, AGNIi, Invest India ▪ **Kushal Banerjee**, Chief General Manager-Business Development, CS&P and BD, Hindustan Petroleum Corporation Ltd
11:00 - 11:15 Hrs	**Networking Break**	
11:15 - 11:30 Hrs	**Global & India Investment in Energy Storage & E-mobility Overview**	**Debi Prasad Dash**, Executive Director, IESA
11:30 - 11:45 Hrs	**Networking Break**	
11:45 - 12:45 Hrs	**M&A, JV, Investment in Growth-stage Companies in Energy Storage & E-Mobility** ▪ Sector trends and technologies subjected to large scale investments ▪ Recent joint ventures and strategic partnerships impacting the stationery storage and EV sector ▪ Investment in growth companies ▪ Mergers & acquisitions	**Moderator:** ▪ **Debi Prasad Dash**, Executive Director, IESA **Panellists:** ▪ **Jayant Prasad**, Executive Director, cKers Finance ▪ **Thalia Skoufa**, Transport Practice Manager - Energy Systems Catapult ▪ **Ishaan Khosla**, Co-founder, Huddle ▪ **Saransh Roy**, Investment Specialist, Invest India ▪ **Dr. Roshan D Yedery**, CEO, VJTI-TBI
12:45 – 13:00 Hrs	**Networking Break**	

13:00 - 15:00 Hrs	Start-up Pitch by 12 Shortlisted Start-ups	Jury Board: ▪ Dinesh Dhamija**, Vice Chair, TiE Global** ▪ Sidharth Choudhury**, AVP, AGNIi, Invest India** ▪ Mahavir Pratap Sharma**, Chair, TiE Global** ▪ Nalin Agarwal**, Program Director, India, New Energy Nexus** ▪ Rakesh Malhotra**, Founder, SAR Group; Member Indian Angels Network** ▪ Ishaan Khosla**, Co-founder, Huddle** ▪ Srinivasa Venu **Uppuluri, VP, SB Energy** ▪ Jitendra Kulkarni**, VP, Innovations, SB Energy** ▪ Vinayak Walimbe**, Director, Financial Services, Customized Energy Solutions Ltd**
15:00 - 15:30 Hrs	**Closing Remarks**	

IESW SPEAKER PROFILES | DAY 1 | 2ND NOV

Session 1: Energy Storage 101 (Current Technology Landscape & Future Developments)

Dr. Satyajit Phadke, Manager - R&D, CES

Dr. Satyajit Phadke joined CES in January 2015. His focus is on consulting services in energy storage and conversion technologies for various applications such as automotive, stationary power, portable power and grid-scale storage. Additionally, he assists with evaluation, validation and competitive bench marking of technologies.

Dr Phadke has in depth understanding of various energy storage technologies owing to his many years of involvement in the research and development of novel battery chemistry and materials for fuel cells. He holds three licensed patents in batteries and is the author of several technical articles in this field.

Dr. K Ramesha, Senior Principal Scientist, CSIR-CECRI

Dr. K Ramesha is a Senior Principal Scientist & Professor at CSIR CECRI-Madras Unit. His main area of research include energy materials - materials for Li-ion batteries, Na-ion batteries, Li-S batteries, and all solid-state batteries.

Avishek Kumar, Co-Founder and CEO, V-Flow Tech Pte Ltd

Dr. Avishek is co-founder and CEO of V-Flow Tech Pte Ltd. V-Flow Tech (VFT) is reinventing vanadium redox flow technology, with a vision to develop the cheapest and most scalable vanadium redox flow batteries in the world. VFT storage solution has an expected life span of 25 years and is proven to be one of the safest and most environmentally friendly battery technologies.

Avishek holds MS degree in Microelectronics from Technical University of Munich, Germany, and a Doctorate degree (PhD) in Electrical and Computer Engineering from National University of Singapore. Avishek has deep background in PV manufacturing and had detailed domain knowledge of renewable energy industry. Dr Avishek is one of the pioneers in PERC Mono technology and has played key role in the commercialization of Half cut PERC Mono module for REC solar. He is actively involved in consultation and development of solar plus energy storage projects across the region and has consulted over 600 MW of Solar Projects.

Michael Willemot, Chief Financial Officer, OXTO Energy

Michael Willemot has been involved in the energy storage industry during the last 5 years, establishing key networks on 4 continents and participating as a speaker at international conferences related to energy storage and renewable energy. Michael completed a Market Feasibility Study on flywheel energy storage systems during an EMBA specialised on the Energy sector in Norway. He worked in several industries, including renewable energies, oil & gas, forestry. He has a Master's in Computer Sciences and has worked on IT systems for different industries, including the bank sector.

Michael has been involved in the business development and operations of OXTO over the last 3 years. He built a pipeline of sales from the traction that the business has generated globally on all continents.

Dr. Dhamodaran Santhanagopalan, Ramanujan Fellow & Associate Professor, Centre for Nanosciences and Molecular Medicine, Amrita Vishwa Vidyapeetham, Kochi, India

Dr. Dhamodaran Santhanagopalan is an Associate Professor at Centre for Nanosciences, Amrita Vishwa Vidyapeetham, Kochi Campus (Kerala). He completed his PhD in Physics from University of Hyderabad in 2007 after a brief time as a postdoctoral fellow, he was Physics Faculty at IIT Kanpur for about four years. After that he joined the Department of Nano Engineering, University of California San Diego as a Postdoctoral Fellow. He was part of Laboratory for Energy Storage and Conversion (LESC) headed by Professor Ying Shirley Meng and his major research activity at UCSD was on FIB fabrication of electrochemically active nano-scale solid-state Li-ion batteries for TEM observation of interfacial phenomena. Upon joining at Amrita, initially, he served as an Assistant Professor and Ramanujan Fellow (for five years) and currently he is an Associate Professor at the centre. His research group works on energy storage materials and devices. Major focus is on lithium and sodium-ion batteries (with both liquid and solid-state electrolytes), while there is also significant interest on potassium, magnesium, and zinc-ion batteries.

Dr. Balakrishnan G. Iyer (Balki), Chief Commercial Officer, Eos Energy Storage

Dr. Balakrishnan G. Iyer (Balki) is a seasoned energy and utilities industry management professional, with rich experience driving business development for global conglomerates. Balki has successfully steered three startups from inception to exit, with investments from some of the largest utilities and financial investors worldwide. He is the Co-founder and Chief Growth Officer of Utopus Insights, a New York-based global renewable energy analytics company, which was recently acquired by Vestas.

Balki began his career at Schlumberger; has previously served as COO of renewable energy giant, Enel Green Power; and as VP, Business Development at GE, where he drove technology developments for renewable energy and smart grid. Balki earned a Master's in Engineering from Binghamton University in New York, an MBA from New York University (NYU) Stern School of Business, and Joint Undergraduate and master's Degrees in Mechanical Engineering & Science from Birla Institute of Technology and Science (BITS) in India. In 2019, Balki was conferred with an Honorary Degree of Doctor of Science by his alma mater, Binghamton University, for his contributions to the fields of sustainable energy and inclusive education. He is Six Sigma Black Belt Certified.

A prolific speaker at global conferences, Balki is passionate about the role of clean energy in changing the world and the role of education in empowering the people who can change the world. His business and entrepreneurial pursuits over the past decade have been guided by this passion. Balki is on the advisory group for INK, a TED-like platform in India that promotes inspiring ideas by game-changers and a member of the State University of New York, Binghamton Alumni Board. Balki sat on the Executive Board for GE's Asia Pacific American Forum, a diversity group focused on mentoring Asian American business leaders. As someone who believes in making a positive community impact through education, Balki, along with his wife, co-founded Iyer Educational Institutions (IEI) with the mission to offer inclusive learning opportunities for children with autism. He is a recipient of the prestigious 'Outstanding 50 Asian Americans in Business' award in 2017 and got listed in the 'Top 100 North American Power List 2020'.

Vishnu Sasidharan, Vice President - New Product Initiatives, Pluss Advanced Technologies Pvt Ltd.

Vishnu Sasidharan is currently working with Pluss Advanced Technologies Pvt. Ltd as the Vice President, New Product Initiatives leading the New Business Development and New Product Development Strategies for Thermal Energy Storage Projects. Pluss' core expertise is in design and manufacturing of Phase Change Materials (PCMs) and its application across diverse industries such as Building HVAC, Cold Chain, automobiles, retail products etc. He has over 13 years of work experience in the HVAC & R and thermal energy storage domain having hands on experience in design, analysis, and implementation approach of thermal energy storage systems. He holds a bachelor's degree in Mechanical Engineering from Visvesvaraya Technological University and MBA in Marketing Management from S P Jain School of Global Management.

Dr. Avi Yadgar, Chief Technology Officer, Phinergy

Avi leads the research and engineering teams at Phinergy and has a broad experience in technology research in commercial companies and academia. Thanks to his expertise in electrical design, software engineering and mechanical engineering, Avi is skilled at managing multidisciplinary projects. Avi holds an engineering degree and PhD from the Technion (Haifa), and has previously worked for IBM, Intel, and NEC Labs.

Venkata Kuladeep, New Technology Manager, Amara Raja Batteries

Venkata Kuladeep Machavolu has been working as the New Technology Manager at Amara Raja Group for the past five years. Venkata has a wide-ranging experience and prior to joining Amara Raja he worked at NED Energy Ltd as Business Development Manager, served as Technical Manager at Gulf Powerbeat WLL and Product Development Engineer at Amara Raja Group.

Session 2: EV & Charging Infra Technology 101 | Electric Vehicle Technology

Rohit Kumar, Senior Consultant, e-Mobility Services and Advisory, Customized Energy Solutions

Rohit is a mobility enthusiast with 10 years of experience with India and China in strategy, business development and project management in the mobility industry, sales and business development in building technologies industry. He joined CES in August 2020 and previously worked in Bosch Powertrain Solutions on new product development, launch management, and commercialization of powertrain solutions for India's biggest OEM of passenger cars. He was also Territory Manager for Bosch Building Technologies division. He also led internal start-up venture conceptualized innovative ideas in the area of Smart Transportation Systems for Smart cities.

Manoj Desai, General Manager, The Automotive Research Association of India (ARAI)

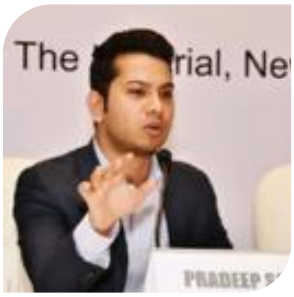
Mr. M. M. Desai is presently the General Manager at the Automotive Electronics department of the Automotive Research Association of India (ARAI). He graduated in Electronics Engineering from Walchand College of Engineering-Sangli. He has total 22 years of working experience.

Madhan B. N., CEO & Co-Founder, Volta Automotive India Pvt Ltd (VAIPL)

Madhan B. N is the Chief Executive Officer and Co-Founder of Volta Automotive India Pvt Ltd (VAIPL). An entrepreneur in the electrical industry for the last three decades, serving the major IT/ITES markets in India and abroad, Madhan has delivered successfully many challenging and iconic electrical projects.

Session 3: EV & Charging Infra Technology 101 | Charging & Swapping

Pradeep Saini, Sr. Analyst, Customized Energy Solutions



Pradeep is an Energy sector professional with 4+ years of experience with primary focus on Market Research & Strategy Consulting in E-Mobility and Energy Storage domain. He has worked on a wide range of projects including setting up of solar and EV battery testing laboratory, helping various clients in development of market entry strategies, microgrids, global market studies on energy storage technologies and e-mobility eco-system.
Prior to joining CES, he worked with MARSS International, a facility management firm based in Delhi. His work profile focused on MEP & Maintenance projects at various embassies along with the business development & customer relationship management.

He holds a Master of Technology in Renewable Energy Engineering and Management from TERI School of Advanced Studies; a Bachelor of Technology in Electrical and Electronics Engineering from Maharaja Agrasen Institute of Technology (MAIT), Delhi, India.

Akhila Vijaykumar, Co-founder and Head (Operations), Esmito Solutions

Akhila Vijaykumar is the Co-founder and Head (Operations), Esmito Solutions Pvt. Ltd. Esmito offers SaaS, cloud-based platform that enables real-time monitoring, control, and management of EV Infrastructure. The platform spans charging and swapping management, battery performance analytics, EV operations management, driver management, advanced billing, data analytics, web and mobile apps and can effectively integrate with any third-party system.

Deepak Kashyap, Marketing Manager - Automotive segment, NXP Semiconductors*

Deepak is the Regional Marketing, at NXP Semiconductors. An automotive electronics and semiconductor professional with 16+ years of experience in product development, project management, marketing, strategy, and business development. He has experience working in diverse, multi-cultural teams in India, Singapore, and Germany.

Session 3: Workshop on Techno-Economic Performance of Minigrids in India
(Powered by MICRO Initiative, supported by ARE & CLEAN)

Nitin Akhade, Manager, MICRO, Customized Energy Solutions

Prasad Kulkarni – Co-Founder, Head Technical, Gram Oorja Solutions Pvt Ltd

Sudeshna Mukherjee – Director of Operations, Hamara Grid Pvt Ltd

Rahul Shelke – Founder and Managing Director, Amperehour Energy

Rajarshi Sen, Technical Advisor, Customized Energy Solutions

Jens Jaeger, Policy & Business Development Manager, Alliance for Rural Electrification (ARE)

Brigadier Pasricha, Indian Army*

Session 4: **IESA – UNIDO INNOVATION WORKSHOP**
(Jointly Organized by IESA, Customized Energy Solutions, UNIDO)

Dr. Rahul Walawalkar, President & MD, Customized Energy Solutions and President, IESA

Rahul is the President and Managing Director of Customized Energy Solutions India Pvt. Ltd. He leads the Emerging Technologies practice for Customized Energy Solutions globally with focus on energy storage, renewables, demand response and smart grid technologies as well as international markets. Rahul is also the founder and Executive Director of India Energy Storage Alliance (IESA). He served as a member of the Board of Directors of Energy Storage Association (ESA) in US during 2009-15 and was elected as Secretary in 2013.

Rahul served as the Vice Chair for Global Energy Storage Alliance (GESA) during 2014-18 and currently Chair's GESA from November 2018.

Sandeep Tandon, National Project Manager - FLCTD project, United Nations Industrial Development Organization (UNIDO)

Sandeep Tandon is National Project Manager of UNIDO's Facility for Low Carbon Technology Deployment project which is providing support to innovative low carbon or clean energy technologies solutions in the actual field conditions. He also led UNIDO's Global Cleantech Innovation Programme, which identified and accelerated several cleantech startups in India.

He has over 31 years professional experience in the energy sector and has been associated with the "Clean Energy and Energy Efficiency" for over 24 years. He has worked on Climate Change mitigation project with bi-lateral and multi-lateral agencies such as the US Agency for International Development (USAID), United Nations Development Programme (UNDP), UNICEF and United Nations Industrial Development Organization (UNIDO).

At USAID, he managed $40 million Climate Change project for India which introduced several first-of-a-kind technologies and project that that successfully demonstrated technical and commercial viability of Advanced Bagasse Cogeneration in private sugar mills, and heat-rate efficiency improvement in coal-fired power plants of NTPC and SEBs, which avoided over 100 million tons of CO2 emissions from energy activities in India.

He has provided advisory and programme implementation support in India, Mongolia, Malaysia, Thailand, Bangladesh, Nepal and Bhutan on Energy Efficiency, and has contributed articles on energy efficiency in technical magazines and shared the experience of clean technology innovation at climate change conferences.

He holds master's degree in Energy Studies from IIT Delhi, and bachelor's degree in Electrical Engineering from Devi Ahilya University, Indore, India.

Arghya Sardar, Scientist F and Head Technology Foresight for Automotive R&D (TFAR) at TIFAC

Arghya Sardar heads TIFAC activity on technology foresight in the field of automotive and transportation technologies under the programme Technology Foresight on Automotive R&D (TFAR). In recent times, a major activity under this programme has been preparation of R&D plan for the Technology Programme under the National Mission for Electric Mobility.

He is also leading ongoing TIFAC studies on various issues related to electric mobility such as "Impacts of Electric Vehicles", "Electric Road Systems" and "Emerging Electrochemical Energy Storage Systems – Technology Forecasting and Impact Analysis". The studies involve systems level modelling of electric mobility.

Arghya Joined TIFAC in 1997 and has been involved in the Homegrown Technology (HGT) Programme of TIFAC, which supported scaling up of technologies from laboratory scale to semi-commercial scale and had focus on academia-industry collaboration.

During 2006-2012, he coordinated two panels of the Collaborative Automotive Research (CAR) as the Member Secretary: (a) IC Engine and Powertrain (b) Electric and Hybrid Electric Vehicles. The CAR programme supported technology development as per identified priorities through pre-competitive consortia involving vehicle manufacturers, component manufacturers and academia/ R&D institutions. He completed B. Tech (Hons) in Energy Engineering from Indian Institute of Technology, (IIT) Kharagpur in 1995, and is pursuing PhD from the School of Energy Science & Engineering, IIT Kharagpur. He has about 30 publications in various national and international journals on various topics related to electric mobility, energy, and environment. Awarded "Best Indian Paper on Safe and Smart Mobility" in Asia Pacific Automotive Conference, 2011.

Dr. P C Pant, Former Advisor, MNRE

A physicist by qualification, ***Dr. P.C. Pant*** has been active in the field of renewable energy for about 36 years. He developed and implemented the integrated rural energy plans for Jaspur, Pisawan and Mohanlal Ganj Blocks in Uttar Pradesh during his initial phase of career (1984-88) as Project Officer, Non-conventional Energy Development Agency, UP. He joined Department of Non-conventional Energy Sources (now Ministry of New and Renewable Energy) in May 1988 and continued till May 2020 on attaining the age of superannuation. During his long stint in GoI, he was instrumental in developing a comprehensive HRD policy for India in the field of renewable energy. This included initiating National Renewable Energy Fellowship Programme,

National Solar Science Fellowship Programme, grant for lab and library up-gradation in selected educational institution, instituting Renewable Energy Chairs, formation of Power Sector Skill Council and Skill Council for Green Jobs, developing course curricula for ITI, diploma, graduate and post-graduate courses, developing various skilling modules (National occupational standards/qualification packs) confirming to NSQF norms. By supporting CIIE, IIM Ahmadabad, Dr Pant could develop a framework for supporting budding entrepreneurs to develop a successful enterprise.

Dr. Pant was also associated with the National Institute of Solar Energy (erstwhile solar Energy Centre) of the MNRE since December 1997 and established a State of Art Battery Research and evaluation Facility, SPV Training Laboratory and SPV System Design Facility at the Centre. He has been associated in organization of many national and international seminars, symposia and training programmes since then. He also conceptualized and coordinated the Visitors' Programme, training activities at the Centre. He was also the Director in-charge of Global Renewable Energy Meet and Expo (RE-INVEST) activities of the Ministry, the 2nd Edition of which was recently held in conjunction with First Assembly of International Solar Alliance (ISA) and 2nd Meet of Energy Ministers of IORA countries.

Dr. Pant also served as the member of National Task Force on Green Jobs, National Steering Committee of National Mission of Power Electronics of Department of Electronics and Information Technology, ET-11, ET-28 and ET-52 Committees of BIS and Board of Studies of DTU for M.Tech Renewable Energy, Academic council of GB Pant Institute of Technology, Pauri, Uttarakhand and Govt. Engineering College, Azamgarh, UP. He is also a life member of Solar Energy Society of India, Indian Society of Lighting Engineers, Indian Chapter of International Centre of Theoretical Physics, Italy and Fellow of International Energy Foundation Canada. He guided five PhDs in addition to guiding several M. Tech students for their major projects. He is also associated with many educational institutions as guest faculty. He was also instrumental in developing BIS standards for batteries to be used in decentralized SPV application besides working in development of AGM-GEL hybrid lead acid cell in collaboration with CECRI, Karaikudi.

Dr. H Purushotham, Former Chairman & MD, NRDC

Dr. H Purushotham has just superannuated on 31.8.2020 as Chairman and Managing Director, National Research Development Corporation (NRDC) a Central Public Sector Undertaking under the Ministry of Science & Technology, Govt. of India.

He obtained his B. Tech degree in Chemical Engineering from Andhra University Visakhapatnam (1982), M. Tech from IIT Kharagpur, M.B.A. from IGNOU and PhD from Osmania University. He has acquired over 37 years of diverse experience across the innovation value chain (Idea to Market) by working at different government institutions of repute mostly under Ministry of Science &Technology, Govt. of India (CSIR-NEIST&CLRI;DST-ARCI&TDB;DSIR-NRDC).

He has also served as a Director in the NICCO Corporation, Andaman Fisheries Ltd. and Shilpi Aqua Culture Pvt. Ltd. and as an Investment Committee Member of UTI, India Ascent Venture Fund, Gujarat Venture Fund Ltd. and Venteneast VC Fund of APIDC, Member Secretary TBI-ARCI and member of several committees of government bodies (DST, DSIR, MoMSME, MCI, NITI Aayog, MHRD, AICTE, TIFAC, TDB, CSIR, APSCHE, i-Hub etc.) for promoting innovations.

He was trained at (i) Venture Capital Institute (VCI), Washington, USA on "Venture Capital Funding",(ii) National Business Incubation Association (NBIA),USA on setting up of "Technology Business Incubators",(iii) MDI on "How to Engage and Use Consultants" and (iv) ASCI on "Management of R&D Systems" and Member of many professional bodies. He was invited by USPTO, AUTM USA to deliver invited lectures.
His core competencies are multi-disciplinary R&D, process development, scale-up, IPR management, technology transfer, techno-economic feasibility analysis, incubation, entrepreneurship nd start-ups, consultancy, venture funding, academia-industry partnerships, industrial R&D project reviews and monitoring.

He is a recipient of 15 national and international awards including "Meritorious Young Consultant Award 1991" Instituted by Consultancy Development Centre, Ministry of Science & Technology. BSE-SKOCH Award 2016, International Association of Advanced Materials Medal 2017, Sweden, ASSOCHAM and Indian Chambers of Commerce & Industry Awards 2017 for promoting R&D and Innovation in the country. Under his leadership NRDC got "Best PSU Award" from Governance Now for bringing financial turnaround and he was awarded a "CEO of the Year 2017" from Indian Chambers of Commerce.

Rajat Gupta, Founder and CEO, TESSOL

Rajat is the founder and CEO of TESSOL, a product company building a viable farm to fork cold chain in India. He has extensive experience in product innovation and technology commercialization in energy domain across India, Europe and US. He has worked both on the enterprise-side with several early stage cleantech start-ups like 3Tier, Promethean Power and on the investment- side with Infuse ventures, an early stage cleantech investment fund.

Rajat started his professional career at Bosch Rexroth India in 2003 as a management trainee in 2003 and was leading the Infrastructure Projects business in 2008 before heading to business school. Post business school, he led strategy and operations as the Chief Operating Officer at Promethean Power bringing its thermal storage technology for milk cooling successfully from concept to market in less than a year. As an entrepreneur-in-residence (2012) at Infuse Ventures, he led their venture creation initiatives with an aim to create and incubate innovations in the cleantech space. Over the last 7 years, TESSOL has led disruption in the cold chain distribution sector in India and has established itself as a strong alternative brand to the established international players. It has also received awards and recognition across the world for its pioneering work in this space.

Rajat is a mechanical engineer from IIT Delhi (2003) and an MBA from Harvard Business School (2010). He speaks English, Hindi, and German (conversational). Rajat has a strong passion for music and cooking and is actively involved in local music society.

Session 5: Workshop on Role of Energy Storage for Moving Towards 24*7 Renewables

[Jointly Organized by IESA, Association of Renewable Energy Agencies of State (AREAS)]

Shri. J. K. Jethani, Executive Director(I/C) Association of Renewable Energy Agencies of State (AREAS)

Dr. Rahul Walawalkar, President, India Energy Storage Alliance (IESA)

Shri. Indu Shekhar Chaturvedi, Secretary, MNRE*

Pankaj Batra, Ex-Chairperson (I/c) & Member (Planning), Central Electricity Authority, and Ex-Officio Additional Secretary to Govt. of India, Chairperson of the BIS Committee of LITD 10

Vijay Menghani, Chief (Engineering), CERC*

S K Soonee, Advisor, Power System Operation Corporation (POSOCO)*

Subir Sen, Chief Operating Officer (CTU Planning), Power Grid Corporation of India Ltd*

Shri. M. A. Pise, General Manager, Maharashtra Energy Development Agency (MEDA)*

Smt. K.R. Mallikha, General Manager, Tamil Nadu Energy Development Agency (TEDA)*

Shri. B. B. Mehta, Director (SLDC), Odisha Power Transmission Corporation Limited (OPTCL)

Sandhya Sundararagavan, Lead, Energy Transitions, WRI India

Ashwin Gambhir, Fellow, Prayas, Pune

Aditya Trivedi, Director Business Development, AES

Amit Saklani, Head- Energy Storage, SB Energy (SoftBank Group)

Rahul Jain, Head of Energy Storage, ReNew Power

Session 6: Session on Hydrogen Economy and India –Nordic Collaboration

(Jointly Organized by IESA, Innovation Norway and Business Finland)

Technology Collaboration on Green Hydrogen

Helge Tryti - Director Business Development South Asia - Innovation Norway

Helge Tryti is for the last seven years Commercial Counsellor at the Royal Norwegian Embassy in India and the Innovation Norway Director of the Mumbai and New Delhi office. During his career, Helge has held several management positions, nationally and internationally, focusing on business development in companies like Xerox, IBM, KPMG, Storebrand and Eika Group. He holds an MBA in International Management from Thunderbird Global School of Management and Master of Business and Marketing from BI Norwegian Business School.

Dr. Satyajit Phadke, Manager, R&D, Customized Energy Solutions

Dr. Satyajit Phadke joined CES in January 2015. His focus is on consulting services in energy storage and conversion technologies for various applications such as automotive, stationary power, portable power and grid-scale storage. Additionally, he assists with evaluation, validation and competitive bench marking of technologies. Dr Phadke has in depth understanding of various energy storage technologies owing to his many years of involvement in the research and development of novel battery chemistry and materials for fuel cells. He holds three licensed patents in batteries and is the author of several technical articles in this field.

Prof. Koushik Biswas, Professor, Dept. of Metallurgical and Materials Engineering, IIT Kharagpur

Dr. Koushik Biswas is currently working in the Department of Metallurgical and Materials engineering as Professor. He received his Bachelor in Engineering in Metallurgy from Jadavpur University, Kolkata in 1996. Subsequently, he obtained his M. Tech from Indian Institute of Technology, Kanpur in 1999. During his M. Tech, he visited Max-Plank Institute of Metal Research, University of Stuttgart, Germany under DAAD-IIT sandwich program.

He pursued his doctoral thesis and received his Ph.D. from the same place in 2002. After returning to India in 2003, he joined Indian Institute of Technology Kharagpur as visiting faculty. In 2004, he went to Seoul National University, South Korea for his post-doctoral study. On his return to India, he joined Bengal Engineering and Science University as Assistant Professor and served till March, 2007 after that he came back to Indian Institute of Technology, Kharagpur.

He has guided more than 45 research scholars and M. Tech students. He has to his credit two patents and about 86 original research publications in peer reviewed journals and conferences. He has also delivered many invited lectures in industry and at conferences. For last 10 years, his prime interest has been on the battery materials, hydrogen storage and solid oxide fuel cells. He is also keen interest on different structural, functional and bio-ceramics with specific emphasis on their processing, characterizations, and structure-properties correlations. In these endeavours, he is also having significant interaction with industry.

He received DAAD scholarship, Max-Planck Fellowship, Procter and Gamble Fröder Prize, Germany, IAAM medals, Sweden, etc. He is also life member of several professional bodies like The Indian Ceramic Society, The Indian Institute of Metals, The Indian Science Congress, Materials Research Society of India, etc.

Dr. Kaushik Jayasayee, Sr. Research Scientist, SINTEF

Dr Kaushik Jayasayee serves as the Senior Research Scientist at SINTEF. With eight years of experience as a researcher, he has expertise in various electrochemical technologies within hydrogen and batteries. Prior to SINTEF he worked as a post-doctoral fellow at the Norwegian University of Science and Technology (NTNU).
He holds M.Sc in Material Science from PSG College of Technology and PhD in Chemistry from the Eindhoven University of Technology.

Dr. Jari Ihonen, Principal Scientist, VTT Technical Research Center of Finland

Dr. Jari Ihonen has over 22 years of experience in fuel cell and hydrogen R&D, mostly with polymer electrolyte fuel cells (PEMFC) including component, stack, and system development. He is currently Principal Scientist in Fuel cells and hydrogen team at VTT Technical Research Centre of Finland.

In the last years, the major topic of interest for him has been hydrogen quality issues and the use of hydrogen fuel cells in maritime applications as well as green hydrogen production for industry.

Session 7: Session on Hydrogen Economy and India –Nordic Collaboration

(Jointly Organized by IESA, Innovation Norway and Business Finland)

India-Nordic Industry Co-operation

Halena Sareen, Head Smart Energy Finland Program, Business Finland

Ms. Sarén is the Head of Smart Energy Finland program at Business Finland. Business Finland is governmentally financed organization, and it offers Finnish companies a unified customer journey for innovation activities, internationalization, investments, and tourism promotion.

She has over 25 years of strong and comprehensive experience in the international business – starting from the business development at Wärtsilä about 25 years ago with the continuation of extensive consulting career in the fields of internationalization, development financing and investments and further with heading the energy growth program. Recently, she has been responsible for the Smart Energy Finland program, which includes close to 100 companies in various fields of energy, namely energy generation, smart grids, batteries, and district energy. She holds MSc in Engineering from the Helsinki University of Technology.

Aditya Poudyal, Business Development in Hydrogen – Fortum

Aditya Poudyal has been working in the Business Development in Hydrogen at Fortum for the past one year. Prior to that he worked as a Technology Analyst for two years at Forum, where he focussed on hydrogen business development, supporting corporate strategy team in various technologies (hydrogen, batteries, EV, solar, and wind), shaping regulatory framework for hydrogen development, technology scouting (batteries, hydrogen, EV, solar and wind) and managing innovation and strategic projects in the area of clean/sustainable energy.

Siddharth Mayur, Founder, MD & CEO, h2e Power Systems Pvt Ltd.

Siddharth R Mayur, a first-generation social entrepreneur founded h2e Power Systems Private Limited in 2011, to fulfil his vision of providing 24x7 clean, green, reliable and affordable energy to all. Driven by the goal to bring energy independence in every sphere of life, he has incorporated Hydrogen, fuel cells and batteries as the core technology strategy to fulfil his vision and developed a solutions-based approach that involved SOFC / SOEC, Salt batteries and Biofuels. Under technology license from Fraunhofer IKTS, Germany, h2e Power Systems is setting up a state-of-the-art manufacturing facility for fuel cells and batteries in India.

Trond Strømgren, Senior Advisor RE and Hydrogen Value Chain, Head R&D, Ocean Hyway Cluster

Trond Stromgren works as Senior Advisor Renewable Energy and Hydrogen Value Chain at the Maritime Industry Cluster Hub for Ocean and as Head of R&D at the Norwegian National Ocean Hyway Cluster. He holds a M.Sc in Energy and Environmental Engineering from Norwegian University of Science and Technology. In the recent years, Stromgren has worked intensively on matters as marine renewable energy, hydrogen production and storage and implementing of hydrogen-based energy systems in passenger vessels. Stromgren is heavily involved in international networks and represents Ocean Hyway Cluster in IEA-HIA Task 39 - Hydrogen in Maritime Transport, is advisor at Maranda Advisory Board and is connected to several large R&D programs.

Session 8: IESA Women in Energy Storage & EV Forum
[Powered by IESA-WE (Women in Energy Initiate)]

Netra Walawalkar, Director, India Markets, Customized Energy Solutions

Netra is a founding member of Customized Energy Solutions' India operation which began in 2010. She has a cross functional experience across multiple functional areas at CES. She also manages strategic partnerships of India Energy Storage Alliance (IESA), an initiative by Customized Energy Solutions.

Netra leads CES's participation in the Indian Energy Exchange & other trading activities since 2010. She is involved in helping commercial & industrial consumers manage their energy portfolio by strategic sourcing planning, energy contract support & execution, market analysis, renewable advisory & RPO management. She has good understanding of Indian energy market.

Netra was involved in analysis of various commercial projects for energy storage in the US markets, understanding technical capabilities of energy storage technologies for determining eligibility in electricity market participation. She had developed optimization programs to maximize profits of energy storage systems by participation in energy, capacity, and ancillary service markets.

Netra holds an MBA degree from Drexel University, Philadelphia, USA, and an Electronics Engineering degree from Mumbai University.

Rashmi Urdhwareshe - Former Director at Automotive Research Association of India (ARAI)

Rashmi Urdhwareshe is the former Director of the Automotive Research Association of India (ARAI). She joined ARAI as a trainee and has risen through ranks to become the director at the company. Rashi completed her post-graduate in electronic engineering from the College of Engineering, Pune, and soon after opted for a research position in instrumentation at ARAI in 1983. In 1986 she received UNDP fellowship to Germany to train in instrumentation development, where she was exposed to a systematic approach to R&D of projects, application of electronics in automotive and learned to lead a team at an R&D center of a renowned vehicle maker in Germany.

At ARAI, some of her noteworthy contributions include the development of electronic controls of hydraulic testing machines which were used extensively to set up of fatigue test laboratory at ARAI. She has also contributed towards emission measurements under which the first-ever emission laboratory was formed in India, which later resulted in bringing in various CO2 emission regulations in the country.

Sulajja Firodia Motwani, Founder and CEO of Kinetic Green Energy & Power Solutions

Ms. Sulajja Firodia Motwani is the Founder & CEO of Kinetic Green Energy and Power Solutions Limited, a pioneer in electric vehicles in India. Under her leadership, Kinetic Green has risen to be the leading manufacturer of e-3W in the country. The company aims to be a global leader in light electric mobility, with a vision to bring green mobility to the masses. With an emphasis on "Make in India", she recently formed a JV with Tonino Lamborghini, SpA, to bring global design and technology for electric and solar golf carts and tourism vehicles, which will be manufactured in India and marketed globally

She is also the Vice Chairperson of Kinetic Engineering Ltd. She is responsible for Kinetic group's overall business strategy and development. Kinetic Group's business interests include Automobile Manufacturing, auto components including powertrain systems, green energy, multilevel parking solutions, elevators and escalators. Kinetics' partners include companies like Hyundai, Lamborghini, Taigene Electrical, Magna etc. Sulajja plays a key role in steering the Group's business strategy and in its implementation across group companies.

Sulajja has received numerous awards for her achievements. World Economic Forum selected her as a "Young Global Leader ". Sulajja has been the recipient of the Society Young Achiever's Award for Business, Young Super Achiever Award by Business Today, MTV's coveted Style-icon Award, "India's Most Powerful Women award", Top Management Consortium's Award of Excellence, Outlook's Women of Worth (WOW) 2019 Award, Zee's Dare to Dream Award, Rotary International's Vocational Excellence Award, Pride of BMCC award, Nari Shakti Award, among others. She was featured as a business "Face of the Millennium" by India Today; and was voted among the top 25 Business Leaders of the Next Century in a poll of industrialists conducted by Fortune. IESA recently accredited her among Women at the forefront of EV ecosystem and Energy Storage around the globe.

She has been invited to lead and speak at many industry forums and associations. Sulajja is currently Chairperson for FICCI Maharashtra and a member of National Steering Committee of FICCI. She is Co-Chairperson of Electric Vehicle Task Force at FICCI, and heads the Electric Three Wheeler mobility of SMEV (Society of Manufacturers of Electric Vehicles).

Sulajja is on the Board of Advisors of iCreate – International Centre for Entrepreneurship & Technology, an initiative of Hon'ble Prime Minister Narendra Modi. Sulajja is also the industry nominee on the Development Council for Electrical Mobility of India from the Ministry of Heavy Industries. She has also been a member of the National Executive Committee of CII, member of the prestigious Governing Body of CSIR (Council of Scientific and Industrial Research, India), and National Chairperson of FICCI Young Leaders Forum. She has been a Director on the Board of Invest India, apex investment promotion agency for Government of India. Sulajja is the Brand Ambassador for Plan International, for their "Save the Girl child" initiative.
A state topper and merit rank holder throughout her academic career, Sulajja holds an MBA from the prestigious Carnegie Mellon University, Pennsylvania, USA. She has also served on the Board of Trustees of the University and was invited on the President's Committee for India for several years.

Post her MBA, Sulajja worked with BARRA International in their office at Berkeley, California before returning to India.

Dr. Shalini Sarin - Director, Elektromobilitat India

Dr. Shalini Sarin is the Director of Elektromobilitat, Board member, Mentor & Advisor, CHRO & Clean Energy. Her experience ranges from Chief People Officer to head of Corporate Social Responsibility to Business Leader for the base of the pyramid solar lighting business for social impact. Profit with purpose and passion is her mantra and belief. She has worked across India, Europe, and the US. And now serves on several boards for Profit & Not-for-Profit organizations. She is an executive coach and a strategic advisor on HR, CSR, sustainability, transformation, and leadership.

Christine Lins, Co-founder and Executive Director, Global Women's Network for Energy Transition

Christine Lins is the Co-founder and Executive Director of the Global Women's Network for Energy Transition.
She has more than 24 years of professional experience in the field of renewable energy and energy efficiency with a strong network of contacts in the sustainable energy arena both from the private and the public sector. Christine is highly committed to working on sustainable energy subjects at international level and has extensive management experience and strong diplomatic skills for handling politically sensitive situations and contexts.

Hema Annamalai, Chair – TiE Women Global, Former CEO - Ampere Vehicles

Hemalatha is the founder and CEO of Ampere Vehicles Pvt. Ltd, a wholly-owned electric mobility subsidiary of Greaves Cotton. The Coimbatore-based company that manufactures electric cycles, scooters, loaders for carrying the load, and special purpose vehicles (SPVs) for waste management. She hopes to empower women and create jobs in manufacturing using sustainable and disruptive technologies. Hemalatha's aim is to increase women's workforce from the current 30% of her workforce to 80% in the coming years. She wants Ampere to grow into a national leader in E-mobility through lean engineering.

Hemalatha is the recipient of the Devi Award. She has also received the Exemplary Application of IT Award presented by the State Government of Tamil Nadu and the Disruptor of Tamil Nadu award in the manufacturing category.

Dr. Rashi Gupta, Founder & Director, Vision Mechatronics Private Ltd

Rashi Gupta is the founder of Vision Mechatronics, a company that provides advanced and smart lithium batteries manufactured in India for both commercial and domestic use and in electric vehicles. Today, she is fondly known as "Batterywali of India". Rashi is a Pioneer in India in Advanced Lithium Batteries bringing the "World's Smartest Lithium Battery" to India.

She is a committee member of the International Electro-Technical Commission, National Energy Storage Committee, FICCI and Bureau of Indian Standards (BIS) where she has been involved in preparing Indian Standards for electrotechnical aspects of totally or partly electrically propelled road vehicles.

Her company operates in robotics, renewable energy, and Li-ion energy storage and provides storage solutions for solar requirements. Its products include OneBox, Li-rack system, Li-Rack Eco, Li-V, Joulie, Joulie + and CELPAK.

Mirunalini Chellapan, Director, SWELECT Energy Systems Ltd

Mirunalini Chellappan is the Director at SWELECT Energy Systems Ltd a Karnataka-based leading solar power systems company. Mirunalini began her career as a Product Development Engineer at SWELECT in 2008 and rose from ranks to become Director in 2017. She currently heads the of HHV Solar (PV Module Division of SWELECT) Solar Products and Special Projects.

Mirunalini holds a master's degree in electrical engineering from Texas A&M University and a bachelor's degree in electrical and electronics engineering from Anna University.

Mani Khurana, Senior Energy Specialist, The World Bank

Mani Khurana is a Senior Energy Specialist with the World Bank. Mani has been working for over 13 years at the World Bank and leading investment projects and analytical activities across energy sector value chain. She has been leading the WB's power sector engagement in various States in India.

IESW SPEAKER PROFILES | DAY 2 | 3RD NOV

AtmaNirbhar Bharat – Energy Storage & EV Manufacturing

Regulatory and Policy Outlook on Energy Storage and EV Manufacturing

Dr. Rahul Walawalkar, Chair, GESA, President, IESA, MD, CES (India)

Dr. Rahul Walawalkar is the President and Managing Director of Customized Energy Solutions India Pvt. Ltd. He leads the Emerging Technologies practice for Customized Energy Solutions globally with focus on energy storage, renewables, demand response and smart grid technologies as well as international markets. Dr. Walawalkar is also the founder and Executive Director of India Energy Storage Alliance (IESA). He served as a member of the Board of Directors of Energy Storage Association (ESA) in US during 2009-15 and was elected as Secretary in 2013. He served as the Vice Chair for Global Energy Storage Alliance (GESA) during 2014-18 and currently Chair's GESA from November 2018**.**

Suresh Prabhu, Member of Parliament (Rajya Sabha), Indian emissary to the G20 & G7

Shri Suresh Prabhakar Prabhu is an Indian politician and India's Sherpa to the G7 and G20. He was formerly the Minister of Railways, Minister of Commerce & Industry and Civil Aviation during the first five tenure of the BJP Government. As a Railway Minister he initiated major reforms bringing improvement in governance system, financial situation, customer satisfaction, cleanliness, information technology and energy efficiency and use of renewables. As Prime Minister's Sherpa in G-20, a high level emissary representing Government of India in the Group of 20 Annual Summit, he put forward the concerns and views of the country forcefully and convincingly, earning all round appreciation. He is a Chartered Accountant by profession and a member of the Institute of Chartered Accountants of India (ICAI). And currently represents Andhra Pradesh in the Rajya Sabha.

Sanjeev Chawla, Director, Ministry of Micro, Small and Medium Enterprises (MSME)

Mr Sanjeev Chawla is working as Director in the office of Development Commissioner (MSME), Ministry of MSME at Nirman Bhawan, New Delhi. His present job is to manage functioning of 18 Technology Centers spread over the country. These Technology Centers provide job oriented training, consultancy and technology support to MSMEs. These centres run Diploma courses and short term training programs in Tool Design, Mechntronics, Machining, low cost automation, CAD/CAM, CATIA, Uni-graphics, calibration, Flavour and Fragrance, Footwear, glass manufacturing, etc.

Along with this assignment, he is also Director, MSME Development Institute, Karnal, which is the field office of the Development Commissioner (MSME) for industry extension services. He is mechanical engineer with MBA from IMT, Gaziabad.

He possesses 27+ years experience in MSME Development, Cluster Development for Micro and Small Enterprises, Implementation of UNIDO's Industrial Development Programs, Policy Formulation for SME Development, Extension Services, Techno managerial consultancy to SMEs, Implementation of ISO - 9000, Market Development, Public Procurement Policy, Technology Outreach, project implementation, etc. He has trained industry stakeholders / officials on issues related to MSME development. He implemented Rs 2200 crore world bank assisted project for setting up 15 new Technology Centers.

Dr. Ashok Jhunjhunwala, Institute Professor, IIT Madras

Aman Hans, Public Private Partnership Specialist, Consultant, NITI Aayog

Aman Hans is a Public-Private Partnership (PPP) Specialist with NITI Aayog, the government of India's premier strategy and policy institution, chaired by the Indian Prime Minister. He is a key architect and the active in-charge for India's Advance Chemistry Cell (ACC) Battery Storage initiative and is also leading pilot transactions to promote PPPs in newer sectors including railways, eco-tourism resorts on islands, sports stadiums, and agri-infrastructure.

Aman has over 10 years of experience in diverse facets of public policy and structured finance. Prior to NITI Aayog, he has served with multinationals including SBI Capital Markets Ltd., Sumitomo Mitsui Banking Corporation, Ernst & Young LLP and ITC Ltd. He holds a B.A in Mathematics (Honors) from St. Stephen's College, Delhi University, and an MSc in Finance from Warwick Business School (UK).

Supply Chain (Raw Materials, Equipment, and Components) & Global Manufacturing

Dr. Satyajit Phadke, Manager, R&D, Customized Energy Solutions

Dr. Satyajit Phadke joined CES in January 2015. His focus is on consulting services in energy storage and conversion technologies for various applications such as automotive, stationary power, portable power and grid scale storage. Additionally, he assists with evaluation, validation and competitive bench marking of technologies. Satyajit has in depth understanding of various energy storage technologies owing to his many years of involvement in the research and development of novel battery chemistry and materials for fuel cells. He holds three licensed patents in batteries and is the author of several technical articles in this field.

Brieux Boisdequin, Vice President, Automotive and Materials, BASF South Asia

Brieux has spent the last 14 years working at BASF in 5 different Asian countries and various roles related to the automotive business. Over the last two and a half years, Brieux is spearheading BASF's efforts to reinforce the company as the leading supplier of chemicals to the automotive industry in South Asia and as a thought leader in the future of mobility. In his past role, Brieux was instrumental in developing BASF as the global leader in battery materials for electric vehicles. He is passionate about innovation, leadership, and sustainability, constantly looking for opportunities to exchange widely on such topics.

Brieux Boisdequin holds an Executive MBA in Business Management/Strategy from INSEAD, Singapore/France, a MA in Business and Commerce from Keio University, Japan, and a BS in Management Science from the Catholic University of Louvain, Belgium.

David Ventola, Business Development Director, Technology & Development, Dürr Systems USA

David Ventola is Director of Business Development, Engineered Products at Dürr Systems, Inc. David holds a B.S. and M.S. in Chemical Engineering and MBA. Prior to Dürr Systems, Inc., David spent most of his career in the roll to roll Coating & Converting Industry at Polaroid and Presstek. Just prior to joining Dürr Systems, Inc. David spent 5 years at A123 Systems focused on Li-Ion battery electrode manufacturing.

Subramanya (Subra) Herle Ph.D., Director, Distinguished Member of Technical Staff, Office of the CTO, Applied Materials

Subra joined Applied Materials as a Sr. MTS in 2010. He was the program manager for the CERDEC program developing Si/CNT anode development. He actively worked on flow-battery program, Li-ion and solid-state battery (SSB) development activities and some of the programs were Govt. funded. Currently he is the CTO for the energy storage group in Applied Materials.

Subra worked at various academic institutions and national labs such as Ames Lab, Iowa; University of Tubingen Germany (Alexander von Humboldt fellowship); and University of Waterloo, Canada. He worked at Panasonic spanning over 6 years focused on identifying and development of new electrode materials for the lithium ion battery.

Subra has a Bachelors and Master degree in Chemistry from the Mangalore University and Ph.D. degree in solid state chemistry from the Indian Institute of Science Bangalore, India. Subra over 20 academic publications, 25 patents and presented work at conferences/workshops and invited talks.

Naveen Kumar Srivastava, Director, Manikaran Lithium

Naveen Kumar Srivastava is the Director of Manikaran Lithium and the President Strategy of Manikaran Power Limited. He has been instrumental in developing several businesses and has delivered impressive business growth for the Manikaran group. The key businesses include Manikaran's foray into the Indian Lithium market through the proposed development of the 20,000 TPA Lithium Hydroxide facility in India.
He brings in over 22 years of experience in developing, managing and operations of various infrastructure and power projects of GMR Energy, Vedanta Plc & JSW Energy. Mr. Naveen holds a Post graduate degree in Power Plant Engineering & a bachelor's degree in electrical engineering.

Recycle & Reuse (Second-life of Battery Packs and Recycling)

Dr. Tanmay Sarkar, Senior Consultant, CES, India

Dr. Tanmay Sarkar is a senior consultant in the R&D division of Customized Energy Solutions (CES) in India. He has over eight years of industrial experience in the field of storage technologies and vast knowledge about first principles-based density functional theory (DFT), material synthesis, lithium battery assembly and testing, supply chain and recycling. He has in-depth knowledge of the raw materials supply chain for battery manufacturing and is the author of many articles on Li-ion battery recycling. He completed his doctoral degree in lithium-ion battery research from Council of Scientific & Industrial Research - Central Electro Chemical Research Institute (CSIR-CECRI), India. He is the author of several scientific publications and peer reviewed journals on storage technologies.

Samrat Sengupta, Programme Director (Climate Change & Energy), CSE

Samrat is a development and operations management professional with 24 years of exposure in sustainable energy and climate change cross-sectoral domains. He has managed business (SBU) / program verticals, with a specific interest in renewable energy power projects, low carbon development and mainstreaming climate change in developmental planning. He has worked with independent power producers and power project (solar, onshore and offshore wind, and hydro) developers, management and engineering consulting houses, international trade associations for renewable energy promotion, national and international civil society organizations, and government research institutions.

Samrat holds an MBA with a specialization in energy management from the Indian Institute of Social Welfare and Business Management (IISW&BM), Calcutta, and a Bachelor of Science with Physics Honors from the University of Calcutta. He has also been trained in the GHG Protocol in the United States in 2002, and in Climate Change Science, Impacts and Responses from Imperial College, London in 2004.

His passion lies in low carbon development and climate change mitigation. He has substantial exposure in programme and project planning, execution, and policy advocacy. He has also represented Indian and South Asian civil society in various multilateral forums like the UNFCCC, IPCC and G8.

Shri Nitin Gupta, CEO, Attero

Dr. Dhamodaran Santhanagopalan, Associate Professor at Centre for Nanosciences, Amrita Vishwa Vidyapeetham, Kochi Campus (Kerala)

Dhamodaran Santhanagopalan is an Associate Professor at Centre for Nanosciences, Amrita Vishwa Vidyapeetham, Kochi Campus (Kerala). He completed his PhD in Physics from University of Hyderabad in 2007 after a brief time as a postdoctoral fellow, he was Physics Faculty at IIT Kanpur for about four years. After that he joined the Department of Nano Engineering, University of California San Diego as a Postdoctoral Fellow. He was part of Laboratory for Energy Storage and Conversion (LESC) headed by Professor Ying Shirley Meng and his major research activity at UCSD was on FIB fabrication of electrochemically active nano-scale solid-state Li-ion batteries for TEM observation of interfacial phenomena. Upon joining at Amrita, initially, he served as an Assistant Professor and Ramanujan Fellow (for 5 years) and currently he is an Associate Professor at the centre. His research group works on energy storage materials and devices. Major focus is on lithium and sodium ion batteries (with both liquid and solid-state electrolytes), while there is also significant interest on potassium, magnesium and zinc-ion batteries.

Skill Development and Capacity building

Debi Prasad Dash, Executive Director, IESA

Debi Prasad Dash is the Executive Director, India Energy Storage Alliance (IESA) at Customized Energy Solutions He has been involved in techno-commercial feasibility, financial modelling & analysis and consulting in emerging technology areas like energy storage, renewable integration, smart grid, electric vehicle infrastructure and microgrids. He is involved in policy recommendations for the energy storage roadmap for India, manufacturing policy for advanced energy storage technologies and development of ancillary markets in India. He is taking lead in new strategic partnership, membership and day to day operations of IESA. He is currently part of BIS Energy Storage Standards Committee (ETD-52)

Debi has over 10 years of industry experience and worked with over 100+ clients in various capacities. Debi is a part of other industry associations like IEEE, IEEE-Smart Grid Working Community, PES, SESI, ISGF, IGEF (Sub Group 4). Debi holds an MBA degree in Finance from Symbiosis International University and Post-Graduation Diploma in Renewable Energy from TERI University

Shanmugam Sivaraman, Chairman, SAEINDIA

Shanmugam Sivaraman completed his bachelor's degree in automobile engineering from Institute of Road and Transport Technology, Erode in 1988. He is Chairman, SAEINDIA Southern Section for the term 2018-2020. He completed his master's degree in Automobile Engineering from Madras Institute of Technology, Chennai in 1991.

He is an engineer, an instructor, an entrepreneur, and a volunteer. He is a founder director, Design Desk (India) Private Limited, Chennai, an Engineering Services Company started in 1993.

DDI has completed 3400+ Projects, 150+ products and 9 Consulting assignments for companies in India and Abroad. He has worked extensively in Design Thinking, Engineering Design and Reverse Engineering. His current interest is in Artificial Intelligence in the applications areas of Autonomous Vehicles, Electric Vehicles and in Machine Condition Monitoring. He was a keynote speaker in Product Development and Management Association's 29th PDMA International Conference held at San Diego, USA in Oct 2005.

Dr. K C Vora, Head, ARAI Academy

Kamalkishore Vora has done his bachelor's in mechanical engineering (1983) from BVM-Vallabh Vidyanagar, Masters in Automobile Engineering (1985) from VJTI-Mumbai University, and his Ph.D. (2000) from IIT-Bombay. He has a vast industrial & academic experience of 35 years and has been associated with Walchandnagar Industries, Emitec Emission Controls, Mahindra & Mahindra, and ARAI. He has specialized in the field of Education & Technology Development, Soft Skills, Engine & Emission Controls, and Electric Mobility. He is instrumental in starting ARAI Academy, which conducts B. Tech, M. Tech. & Ph.D. Courses in Automotive Engineering in Collaboration with various Universities.

Presently Dr. Vora is Sr Deputy Director and Head, ARAI Academy. He is the recipient of the `Best Learning Centre Award 2011' for ARAI Academy & Knowledge Centre from the Indian Society for Training & Development (ISTD) at Pune. In 2014, he received GURU Award from SAEINDIA Foundation in New Delhi for his contributions to the students of India. He also received the Quality Excellence Award for Teaching & Learning Practices in Feb 2016 and Life Time Achievement Award by the Open International University, Sri Lanka in Sept 2016.

He was the Secretary & Vice President of the Society of Automotive Engineers (SAE INDIA) and conducts series of Conferences, Seminars, Workshops, Courses, and various students' activities like AWIM & BAJA SAEINDIA. He is now the Managing Committee Member of SAEINDIA, Member of SAE International Engineering Meetings Board in the USA, Member of Congress Board of FISITA in the UK, and SAEINDIA Off-Highway Board. He was Convener of SIAT 2015 and also the Technical Chair of SIAT 2017, FISITA 2018 & SIAT 2019. Recently, he is nominated as Chairman of ASDC Expert Group on Electric Vehicles and has taken-up a big task of EV Awareness across the country. Dr. Vora has 2 patents, 3 books, 2 reports, 20 international papers & 65 national papers to his credit.

Dr. R Harikumar, Director-in-Charge, EMC, Kerala

R Harikumar, Director (in-charge) of Energy Management Centre (EMC), Government of Kerala is a Graduate in Mechanical Engineering; Post Graduate in Energy Conservation and holds a Ph.D. in Energy Management. EMC is the State Designated Agency (SDA of BEE, Govt of India) in Kerala for implementation of the provisions of the Energy Conservation Act 2001, which includes inter alia, Energy Conservation Building Code (ECBC), Perform-Achieve-Trade (PAT) scheme for energy intensive industries, Municipal & Agricultural DSM, Standards & Labelling for selected equipment, etc. EMC has recently started conducting all its capacity building programs, certificate courses and awareness campaigns through online mode. He was on deputation from EMC to Agency of Non-Conventional Energy & Rural Technology (ANERT) as its Director from September 2016 till December 2018. ANERT is the Kerala State Nodal Agency (SNA of MNRE, Govt of India) for promoting renewable energy. He was instrumental in launching the "Soura" - joint program of KSEBL & ANERT, targeting 1000 MW of solar by 2021. Got more than 28 years of experience in the fields of energy efficiency and renewable energy. Trained at National Productivity Council during 1992, he worked for a national energy consultancy organization in North India. Harikumar had a brief stint in a chemical processing industry and then worked for more than 2 years in the first Energy Services Company (ESCO) in Asia, at Bangalore, before joining EMC in 1997. From Sept 2006-Sept 2009, he was on deputation to ANERT as its Project Director, leading its district operations. A Certified Energy Auditor of Bureau of Energy Efficiency, he is the Honorary Founder General Secretary of the Society of Energy Engineers and Managers (SEEM), the professional body of Certified Energy Managers and Auditors in the country, established in 2005. Harikumar has travelled widely within the country for energy efficiency capacity-building programs as a faculty member of the Federation of Indian Chambers of Commerce and Industry (FICCI) and the United Nations Industrial Development Organization (UNIDO). On various energy-related missions, he has also travelled abroad to Bangladesh, France, Japan, Malaysia, Maldives, Netherlands, Singapore, Sri Lanka, Taiwan, Thailand and the United States.

Dr. Adinath M Funde, Assistant Professor, School of Energy Studies, Savitribai Phule Pune University

Dr. Adinath Funde is Assistant Professor at School of Energy Studies, Savitribai Phule Pune University (formerly University of Pune), Pune, India from the year 2011. He is coordinator for Solar Photovoltaic and Energy Storage initiatives of the department, School of Energy Studies of his University. His broader research interests are Renewable Energy Conversion and Energy Storage. His present specific research interests include low cost alternative materials for solar photovoltaics, battery electrode materials for sodium ion chemistry, and iron flow batteries. He has worked as Visiting Post-doctoral Fellow in the year 2013-14 at Aalto University, Finland, where he worked on hybrid structure solar cells.

He is member of several professional organizations. Adinath obtained his Ph.D. in Physics from University of Pune in 2011 on research in thin film solar cells.

Make in India (CXO's Perspective on Indigenous Manufacturing)

Dr. Rahul Walawalkar, Chair, GESA, President, IESA, MD, CES (India)

Dr. Rahul Walawalkar is the President and Managing Director of Customized Energy Solutions India Pvt. Ltd. He leads the Emerging Technologies practice for Customized Energy Solutions globally with focus on energy storage, renewables, demand response and smart grid technologies as well as international markets. Dr. Walawalkaris also the founder and Executive Director of India Energy Storage Alliance (IESA). He served as a member of the Board of Directors of Energy Storage Association (ESA) in US during 2009-15 and was elected as Secretary in 2013. He served as the Vice Chair for Global Energy Storage Alliance (GESA) during 2014-18 and currently Chair's GESA from November 2018**.**

Saurabh Gaur, Joint Secretary, Ministry of Electronics & I.T, Government of India

Saurabh Gaur, is an Electronics Engineer from IIT Roorkee and an IAS Officer of Andhra Pradesh Cadre (2002 batch). He currently holds the position of Joint Secretary in Ministry of Electronics and Information Technology and leads the Industrial Promotion-Electronics & Hardware Manufacturing Division (IPHW) of MeitY. During his career he has held many key positions in commerce, housing, revenue, energy, and disaster management in Central and State Government Mr. Gaur is the key architect of the three new schemes of GoI, namely, Production Linked Incentive Scheme (PLI), Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) and Modified Electronics Manufacturing Clusters Scheme (EMC 2.0). The schemes were designed to boost the domestic manufacturing and attracting large scale investments to the ESDM sector. In a short span he had been instrumental in promoting electronics manufacturing in India.

Rakesh Malhotra, Founder & Mentor of the SAR Group

Rakesh Malhotra, Founder & Mentor of the SAR Group, is a serial entrepreneur since 1988 and an early-stage investor in India, Singapore, and the US.
SAR Group companies are engaged in a wide range of industries including power electronics, energy storage, Renewable energy, Water and Air purification, Industrial IOT, etc.

A graduate from Jadavpur University India in Electronics & Telecom Engineering he started his career in 1983 at NELCO (Tata Group) followed by Mitsui and Siemens. Since 1988 he has been a founder/co-founder of 14 ventures and has exited 8 of these. These companies currently employ over 9000 people and have combined revenues of close to $1 billion.

He actively mentors many startups in India and Singapore and likes to interact with engineering and B-school students to develop their interest in entrepreneurship. He serves on various industrial/technology committees in India and presents papers at engineering conferences. He is a family person and likes traveling, playing cricket, music, and business reading.

Vijayanand S, CEO, Amara Raja Batteries Ltd.

Vijayanand Samudrala is the senior member of the Corporate Management Council at Amara Raja Group.

He joined Amara Raja Group in 1992 and has been part of the Group's growth story for well over 27 years. He has held various positions in the organization in the areas of business leadership, strategic planning, new business development initiatives, technology development, project management etc. An active proponent of adoption of new and emerging technologies in the field of renewable energy and alternative battery chemistries he has been National Committee member in Confederation of Indian Industry (CII) and chaired various sub-committees on electric mobility.

He obtained B. Tech Degree in Chemical Engineering from SVU college of Engineering, Tirupati and M. Tech in Chemical Engineering from Indian Institute of Technology, Mumbai.

ABOUT OUR PARTNERS

NITI Aayog *as Supported By Partner*

The NITI Aayog (National Institution for Transforming India) is a policy think tank of the Government of India, established with the aim to achieve sustainable development goals with cooperative federalism by fostering the involvement of State Governments of India in the economic policy-making process using a bottom-up approach. Its initiatives include "15-year road map", "7-year vision, strategy, and action plan", AMRUT, Digital India, Atal Innovation Mission, Medical Education Reform, agriculture reforms (Model Land Leasing Law, Reforms of the Agricultural Produce Marketing Committee Act, Agricultural Marketing and Farmer Friendly Reforms Index for ranking states), Indices Measuring States' Performance in Health, Education and Water Management, Sub-Group of Chief Ministers on Rationalization of Centrally Sponsored Schemes, Sub-Group of Chief Ministers on Swachh Bharat Abhiyan, Sub-Group of Chief Ministers on Skill Development, Task Forces on Agriculture and up of Poverty, and Transforming India Lecture Series.

Website link: https://niti.gov.in/

Department of Science and Technology (DST) *as Supported By Partner*

Department of Science & Technology (DST)- was established in May 1971, with the objective of promoting new areas of Science & Technology and to play the role of a nodal department for organising, coordinating and promoting S&T activities in India country.

Website Link: https://dst.gov.in/

Customized Energy Solutions *as Powered By Partner*

Customized Energy Solutions is one of the fastest growing energy consulting & services companies, operating in North America for the past 16 years. Customized is working with over 400 clients across the value chain of electricity industry globally. We started our India operations as Customized Energy Solutions India Pvt. Ltd in 2010. We work with commercial and industrial customers to help reduce their energy costs through better utilization of the energy markets and emerging technologies. We have helped bring innovative energy services such as demand response to India. We are pioneering in exploring integration of latest technologies such as energy storage, microgrids as well as smart grid maturity model to Indian consumers.

Unlike most consulting companies, we help clients from the feasibility study through implementing solutions as well as offer services to optimize operations. We work with our clients to improve communication and metering, integration of renewable generation as well as other emerging technologies, and active management of resources through utilization of our 24*7 operations center.

Website Link: https://ces-ltd.in/

Emerging Technology News (ETN) *as Host Media Partner*

Emerging Technology News - Emerging Technology News (ETN) is a leading B2B magazine on renewable energy, energy storage, electric vehicles, and emerging technologies. Published by Customized Energy Solutions Pvt Ltd, India, the flagship magazine provides rigorous analysis and fresh updates on renewable energy, advanced energy storage, electric vehicles, energy innovations, and more.

Website Link: indiaesa.info/magazine

Intelligence in Energy Management (i-EM) *as Session Partner*

i-EM provides advanced analytics powered solutions for intelligent smartgrid energy management, enabling the optimization of energy decision making through satellite data fusion and big data analytics. Its mission is to allow energy players, including end-users, to make the best decisions by providing awareness of the activities of the grid and its elements in real-time. i-EM provides innovative solutions to allow its customers to discover a new way to use and manage energy.

The main application sectors are:

- smartgrid management,
- electric vehicles mobility,
- energy forecasting,
- renewable plants monitoring,
- solar resources management
- battery storage.

Our key skills include predictive maintenance, power forecasting, advance data analysis and real time data delivering, in order to help organizations optimise assets performance.

Website Link: https://www.i-em.eu/

Schaltbau Group *as Bronze Partner*

The Schaltbau Group is among the world's leading suppliers in the fields of rolling stock, rail infrastructure, automotive and the capital goods industry. Furthermore, our technical safety products are integral parts in applications such as buses, electric vehicles, photovoltaic power plants and wind turbines. As an expert in DC engineering Schaltbau GmbH is a major supplier of reliable, long-lasting electromechanical components and customer specific solutions for railway and various industrial applications.

Website Link: www.schaltbau.com

Durr Megtec *as Associate Partner*

The Dürr Group is one of the world's leading mechanical and plant engineering firms with extensive expertise in automation and digitalization/Industry 4.0. Its products, systems and services enable highly efficient manufacturing processes in different industries. The Dürr Group supplies sectors like the automotive industry, mechanical engineering, chemical, pharmaceutical and woodworking industries. The global acquisition of Megtec and Universal in October 2018 increased the range of products in the environmental business. Dürr group generated sales of € 3.92 billion in 2019. The company has around 16,300 employees and 112 business locations in 34 countries. The Group operates in the market with the brands Dürr, Schenck and HOMAG and with five divisions:

- **Paint and Final Assembly Systems**: paint shops as well as final assembly, testing and filling technology for the automotive industry
- **Application Technology**: robot technologies for the automated application of paint, sealants and adhesives
- **Clean Technology Systems**: air pollution control, noise abatement systems and coating systems for battery electrodes
- **Measuring and Process Systems**: balancing equipment and diagnostic technology
- **Woodworking Machinery and Systems**: machinery and equipment for the woodworking industry

Dürr's activities in India began in the 1950s, since then the company has been serving the industry with outstanding automation expertise in painting, application technology, final assembly, exhaust air purification and energy efficiency products as well as air pollution control, noise abatement systems and coating systems for battery electrodes. Dürr Megtec is continuously advancing battery electrode development and manufacturing. Durr Megtec's Two-sided coating machines, available in various sizes, offer higher electrode quality and lower operational costs than other products in the market.

Since April 2015, Dürr India has also been offering on-the-job as well as classroom training in paint and application systems to customers at its new training center. Schenck RoTec India, in Noida, is responsible for balancing technology as well as for testing and filling technology. The HOMAG Group produces machinery and equipment for the woodworking industry. It has a presence in Bangalore, where it operates a production site and sales and service company HOMAG India.

Website Link: https://www.durr-megtec.com/

Diabatix *as Expo Partner*

Diabatix is a Belgian engineering firm that specializes in generative thermal design. Created on the forefront of the newest developments in topology optimization, generative design and machine learning, Diabatix has developed a software that can create an optimized thermal design from scratch. Taking into account the boundary constraints and the client's priorities for their application, the software can quickly deliver an optimized result that is geared towards established, affordable manufacturing techniques such as CNC milling and sheet metal forming. The software can also design for state-of-the-art manufacturing techniques such as 3D-printing, greatly expanding what's possible within the customized design. Backed by powerful supercomputers located in four different parts of Europe, design iterations are fast and thorough, delivering a reliable, completely optimized design within weeks. Reflecting the need in today's high- tech world that overheating should never hamper innovation, Diabatix' customer base ranges from large automotive OEMS to world renowned research institutes and market leaders in electronics and telecom.

Website Link: https://www.diabatix.com/

Invest India *as Start-up Partner*

As the national investment promotion and facilitation agency, Invest India focuses on sector-specific investor targeting and development of new partnerships to enable sustainable investments in India. In addition to a core team that focuses on sustainable investments, Invest India also partners with substantial investment promotion agencies and multilateral organizations. Invest India also actively works with several Indian states to build capacity as well as bring in global best practices in investment targeting, promotion, and facilitation areas. Invest India, set up in 2009, is a non-profit venture under the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India.

Website Link: www.investindia.gov.in/

Innovation Norway *as Country Partner*

Innovation Norway promotes nationwide industrial development to both the business economy and Norway's national economy and helps release the potential of different districts and regions by contributing to innovation, internationalization, and promotion

Website Link- https://www.innovasjonnorge.no/en/start-page/

EXICOM Tele Systems *as Supporting Partner*

Exicom Tele-Systems Limited designs, develops, and deploys innovative energy solutions for a sustainable future. From industrial level power solutions powered by Lithium ion batteries to future-ready ecosystem for electric vehicles, Exicom has been working for past 26 years to help build the right skills, capabilities, and manufacturing prowess for a self-reliant India.

Website Link: exicom-ps.com/index.html

Alliance for Rural Electrification (ARE) *as Supporting Partner*

Alliance for Rural Electrification is an international business association that promotes a sustainable decentralized renewable energy industry for the 21st century, activating markets for affordable energy services, and creating local jobs and inclusive economies.

Website link- www.ruralelec.org/

China Energy Storage Alliance (CNESA) *as Supporting Partner*

China Energy Storage Alliance (CNESA)- The China Energy Storage Alliance is a non-profit industry association dedicated to promoting energy storage technology in China.

Website link- http://en.cnesa.org/

European Association for Storage of Energy (EASE) *as Supporting Partner*

European Association for Storage of Energy – The European Association for Storage of Energy (EASE) located in Brussels, Belgium, is the leading member-supported association representing organizations active across the entire energy storage value chain. EASE supports the deployment of energy storage to support the cost-effective transition to a resilient, climate-neutral, and secure energy system.

Website link- ease-storage.eu/

Indo German Energy Forum (IGEF) *as Supporting Partner*

The Indo-German Energy Forum (IGEF) provides a dialogue platform for high-level policy makers, financial institutions, industry and research organizations to deepen and enhance the bilateral cooperation for the energy transition in Germany and India.

Website link- www.energyforum.in/home

IESW 2020

India Energy Storage Week

email: event@indiaesa.info | contact@indiaesa.info