Following the warm reception the first edition of India Battery Conclave (IBC) received last year from the Indian automotive industry, Auto Tech Review successfully conducted the 2nd edition of the country’s only premier automotive battery event on November 14, 2014. With the expanding horizons of hybrid electric vehicles (HEVs), the subject of the event too evolved in the form of ‘Energy Storage For Automotive Systems: What Lies Ahead’. The event was organised in partnership with TRAKTION, and in association with TIFAC.
The day-long event witnessed encouraging participation from speakers and delegates, belonging to various functions of the industry across various geographies. The Chief Guest for the event was Padamshri Professor Ashok Jhunjhunwala, Professor, Department of Electrical Engineering, Indian Institute of Technology, Madras.

**KNOWLEDGE FROM THE DAY**

While batteries continue to be the most critical challenge in electromobility, the larger subject of energy storage – especially from an Indian perspective – is becoming fairly critical. That in a manner explains the theme for IBC 2014.

Session 1, which was themed “Energy Storage & Batteries: The Stakeholders’ Perspective”, attracted insights into the present regulations in place for batteries, the need to invest in future batteries and the kind of technology initiatives needed to achieve the same. Session 2 was titled ‘Technology Integration: Battery & Battery Management Systems’. This session included information on topics including the challenges poised before future mobility and the various technologies that are being or can be used for finding more efficiency within the hybrid/electric drive. These sessions were followed by a panel discussion consisting of experts across the global automotive industry.

Speakers from both suppliers and OEMs shared their experiences and talked about the on-going work in the field of batteries. Alternative chemistries were a popular discussion point and some presentations showcased how the energy output and capacity can be increased, while maintaining or exceeding the required safety standards. New combinations of existing materials and usage of new materials in order to boost the battery’s performance was also discussed, including some tried and tested...
solutions in Europe.

The importance of using the right simulation and modelling tools was another area taken up for discussion. A presentation showed how the usage of the right modelling tool can optimise an existing design and increase its overall performance, leading to longer life and higher profits from an existing system. The ability to create better systems too was shown.

Optimisation of the electric powertrain was discussed at length, with the consensus being that India, despite being a cost-sensitive market, demands the best possible performance from any given specification. This can be achieved to a great extent by optimising each system specifically to its application. Doing so will not only increase the output but also reduce negative parameters such as parasitic losses, leading to an increase in overall efficiency.

KEY TAKEAWAYS

A key takeaway from IBC 2014 was that the present state of battery technology and manufacturing is underwhelming and needs some kind of introspection from all stakeholders. Innovation practices that need to be implemented to fast track the battery technology were also discussed. It was also unanimously agreed that all stakeholders need to come together to discuss and thus, play a larger role in the deployment of the National Mission on Electric Mobility (NMEM) and similar initiatives. Most participants agreed that creation of specific centres of excellence under the NMEM will fast-track development of the entire ecosystem for electromobility across vehicle segments.

Various presentations during the day also highlighted that global solutions regardless of their technical advancement cannot be implemented in India in a carry-over format. Battery and allied system technology will need to be made or customised specifically for India, which in turn requires a focussed and timely approach towards R&D. Ways of overcoming the high cost of electric vehicles and batteries was also discussed and some calculations also showed multiple conditions in which HEV vehicles offer overall lower operating cost than conventional vehicles.