

## Cyber Security Workshop

Techfest is the annual science and technology festival of IIT Bombay. Following is the basic outline of the workshop that will be happening at **Techfest, IIT Bombay, In-Person** workshop by FEV.

Session - 1	<p>Automotive Cybersecurity</p> <ul style="list-style-type: none"> <li>● Introduction to Automotive Cybersecurity</li> <li>● Is your vehicle Cybersecure?</li> <li>● Safety vs Security conundrum</li> <li>● Areas to support for a vehicle launch</li> <li>● EE Vehicle Architecture</li> <li>● Challenges faced</li> </ul>	45 Mins
Session – 2	<p>Standards and Regulations for Automotive Cybersecurity</p> <ul style="list-style-type: none"> <li>● What is driving Cybersecurity for OEMs?</li> <li>● CSMS (UNECE R155), SUMS (UNECE R156) and ISO/SAE 21434</li> <li>● Regulations and standards that are driving cybersecurity across various Geographies</li> </ul>	45 Mins
Session – 3	<p>Cybersecurity Analysis for Automotive</p> <ul style="list-style-type: none"> <li>● Goals of Cybersecurity Analysis</li> <li>● Methods of Cybersecurity Analysis</li> <li>● Approaches to be used for practical purposes</li> <li>● Cybersecurity Concepts for Automotive</li> <li>● Nuances of Cybersecurity</li> </ul>	45 Mins

	<p>Implementation</p> <ul style="list-style-type: none"> <li>Layered Security Approach</li> </ul>	
Session – 4	<p>Cybersecurity Implementation</p> <ul style="list-style-type: none"> <li>Foundation of Encryption, Digital Signature &amp; Certificate, Hashing, PKI, CIA triad</li> <li>Security Controls like Secure On-Board Communication, Secure Flashing, Secure Diagnostic, Secure Boot, Hardware Protection, Secure Storage</li> <li>Security engineering methods <ul style="list-style-type: none"> <li>Gateway ECU</li> <li>Domain Controllers</li> <li>AUTOSAR Architecture</li> </ul> </li> <li>Hardware trust anchors</li> </ul>	45 Mins
Session – 5	<p>Penetration Testing</p> <ul style="list-style-type: none"> <li>Methods of Cybersecurity Validation</li> <li>Ethical Hacking in Automotive</li> <li>Vulnerability Assessment for Automotive</li> <li>Approaches of Penetration Testing</li> </ul>	45 Mins