Training program in Tesla diagnostics

1. **Glossary**
2. **Tesla Model S/X: vehicle design and configuration**
   - 2.1. General design of a vehicle, buses and connection ports, components
   - 2.2. ECUs intercommunication
   - 2.3. Structure of MCU, control units, radar sensors, etc.
   - 2.4. Tegra\Intel: differences and location
   - 2.5. Autopilots
   - 2.6. Performance RWD\AWD\Perf, motors, and their differences
3. **Tesla Model 3/Y: vehicle design and configuration**
   - 3.1. General design of a vehicle, buses and connection ports, components
   - 3.2. ECUs intercommunication
   - 3.3. Structure of MCU, control units, radar sensors, etc.
   - 3.4. Autopilots
   - 3.5. Performance
4. **Tesla battery pack**
   - 4.1. Battery pack of Tesla Model S
     - 4.1.1.Battery components overview
     - 4.1.2.Battery module structure
     - 4.1.3. BMS, BMB
     - 4.1.4. Battery cooling system
   - 4.2. Battery pack of Tesla Model 3
     - 4.2.1. Battery components overview
     - 4.2.2. Battery module structure
     - 4.2.3. Penthouse
     - 4.2.4. HVBMS, HVC, HVP
     - 4.2.5. Brick management system (Batman&Robin)
     - 4.2.6. Battery cooling system
5. **Other ECUs: their purpose and what we do with them**
   - 5.1. Body Control Module (Model S/X)
   - 5.2. VCFRONT, VCLEFT, VCRIGHT (Model 3/Y)
   - 5.3. Security Controller
   - 5.4. DC-DC Converter
   - 5.5. Fuse Box
   - 5.6. Charge Port
6. **Maintenance operations, most common faults and potential problems**
   - 6.1. Auxiliary repair tools and necessary equipment
   - 6.2. Tesla Model S: common problems and maintenance operations
   - 6.3. Tesla Model X: common problems and maintenance operations
   - 6.4. Tesla Model 3: common problems and maintenance operations
7. **Modes of vehicle operation and their purpose, principles of diagnostics, and how to approach it**
   - 7.1. Factory/Developer Mode
   - 7.2. Service Mode
   - 7.3. Less essential modes (for example, Dyno\Tow\Jack\Diagnostic Mode)
8. **Connection between the vehicle and servers, certificates, updates, and software application.**
   - 8.1. What are certificates and how not to lose them?
   - 8.2. What happens when certificates are lost and the ways of their recovery
   - 8.3. Tesla software application
9. **Starting the diagnostics**

9.1. Alert and DTC codes
9.2. Localization of a fault based on error codes
9.3. Alerts-the causes and alerts-the effects
9.4. Case studies

10. Diagnosing a car with LOKI

10.1. Rules for smooth and trouble-free work with a vehicle
10.2. Operations that can be performed and their purposes
10.3. Connection to a vehicle
10.4. Tesla/Intel/M3 Configuration
10.5. Redeployment program
10.5.1. What is redeployment and why do we need it?
10.5.2. How to redeploy and the conditions for its successful completion
10.6. Navigation
10.7. Software update
10.8. Work with CAN-blocks

11. Summing-up and additional items

Provided by Organizers:

- Training Materials.
- Tesla Model 3 vehicle for training and Loki diagnostic tool.
- Comfortable Study Center with conference equipment.
- Premises for Technical Service with special repair tools.
- Team of experts – development engineers, teachers and service specialists
- Technical training certificate.
- Technical support after education.