

CLAIMS:

1. A system for increasing efficiency of an electric vehicle, comprising:
 - a transmission control unit (1);
 - 5 - a motor control unit (2);
 - a vehicle control unit (3);
 - a battery management system (4);
 - plurality of batteries (4.1-4.10);
 - plurality of battery cooling unit (5.1-5.3);
- 10 wherein, the transmission control unit (1) including the motor in the electric vehicle operates at variable speed (800-1400 rpm) and torque (700-1000 N.m.) to obtain 96-99 percent efficiency of the motor.
2. The system for increasing efficiency of an electric vehicle as claimed in claim 1, wherein
- 15 the vehicle control unit (3), the transmission control unit (1) and the motor control unit (2) are connected in a single Control Area Network Bus (6).
3. The system for increasing efficiency of an electric vehicle as claimed in claim 1, wherein
- 20 the said battery management system (4) comprises a first battery control unit (5.1), a secondary battery control unit (5.2), and third battery control unit (5.3).
4. The system for increasing efficiency of an electric vehicle as claimed in claim 1, wherein
- 25 the said battery cooling system (5) is a pulse width modulation-based water cooling system.
5. The system for increasing efficiency of an electric vehicle as claimed in claim 1, wherein
- 30 the said battery cooling system(5) comprising atleast one compressor, atleast one condenser, plurality of condenser fans, plurality of expansion valves, plurality of piping and atleast one refrigeration plate heat exchanger.

6. The system for increasing efficiency of an electric vehicle as claimed in claim 1, wherein the electric vehicle is an electric truck.
7. A method for increasing efficiency of an electric vehicle, comprising:
- 5 - monitoring the safety of the vehicle by means of a Vehicle Control Unit (3);
 - controlling the gearbox and shifting of the gears by means of a Transmission Control Unit (1);
 - controlling and monitoring the individual cell temperature by means of a Battery Management System (4);
 - 10 - converting the DC current to AC current for motor operation by means of a Motor Control Unit (3);
 - optimizing the battery temperature at their optimal temperature range by means of a Battery Cooling System (5);
- 15 8. The method for increasing efficiency of an electric vehicle, as claimed in claim 6, wherein the temperature of the battery is regulated upto 40°C for efficient functioning.
9. The method for increasing efficiency of an electric vehicle as claimed in claim 6, wherein the plurality of batteries (4.1- 4.10) storing power generated from the movement of the
- 20 wheels in the electric truck when brakes are applied or accelerator pedal is not pressed.
10. The method for increasing efficiency of an electric vehicle as claimed in claim 6, wherein the battery cooling unit (5) comprising:
- 25 - the compressor discharges a high-temperature pressure gas into the condenser and exchanges the heat with the low-temperature inlet air;
 - the high-pressure refrigerant gas is then condensed into a liquid at a normal temperature and high pressure, and at the same time, the low-temperature air inlet is discharged into a high-temperature air outlet.
 - 30 - the normal temperature and high-pressure refrigerant liquid is throttled by the expansion valve into a low temperature and low pressure liquid;

- the plate heat exchanger performing the heat exchange with the water entering the higher temperature at the same time and is finally recirculated by the compressor.

5 11. The method for increasing efficiency of an electric vehicle, as claimed in claim 6, wherein the battery cooling unit (5) is optimized to maintain the temperature between 35 °C and 40°C of the battery during the discharge condition.

10 12. The method for increasing efficiency of an electric vehicle, as claimed in claim 6, wherein the battery cooling unit (5) is optimized to maintain the temperature between 35 °C and 40°C of the battery during the charging condition.