SELECT TEAM NAME	E03 - Inspired Karters Electric			
DSS Report [50 pts]		**Out of**	**Score Modification**	**Reviewer Comments**
Completeness	Are they using the provided template? Have they indicated their team number & name? Have all the required fields been addressed?	15	15	Nicely followed RM: All details filled.
Sensibility	With respect to: Choice of motor? Accumulator cell technology / chemistry? Configuration of accummulator cell configuration?	35	35	Representation is good. Great eforts are made to express the System Design and their calculations RM: Specs called out make sense.
Presentation / Delivery [90 pts]		**Out of**	**Score Modification**	**Reviewer Comments**
1. Evaluation of Concept Design [70 pts]				
Accumulator management system management and integration (Packaging, Electronics / Power mgmt, Battery Regulation, Charger & External Charging Contact, Sensors, Analysis methods / Tools etc.)	Is the accumulator configuration properly designed to meet the team's stated goals? (e.g. capacity, power, temperature dependence) Is an energy management strategy clearly defined and implemented? Temperature management: which are the weakest components and under which conditions? (consider short term and long term failure modes). Is there data communication/feedback between different parts of the tractive system? Has data logging of tractive system been well executed? Was gathered data properly utilized? Is the system well packaged/integrated into the remainder of the vehicle? Are sensitive items protected? Proper use of data? Do systems compliment another? What testing/development tools have been used or created? Has a good balance of Make vs. Buy decisions been employed?	12	10.2	Can improve on Accumulator Design. The team has good potential. RM: Special mention for cell degradation models in report.
Thermal Management System (Cooling etc.)	Management of waste heat generated in the battery cells? Are cooling systems properly sized for the motor, battery, electronics, accumulator, etc…? What kind of cooling systems are used? Did the team use any simulation / validation to evaluate their choice of cooling system?	10	7	Thermal Management System calculations are not well addressed. Team need to work on validating their thermal management system based on in-depth calculations.
Electric motor with control system	Were motor(s) appropriately selected and developed? Does the team have a good insight in the limitations of their motor(s) and the trade-offs on weight and energy efficiency? Which power/torque ratio is chosen? Are the reasons for this understood? Are the benefits of electric motors fully utilized (e.g. over powering/boosting, regenerative braking, vehicle control)?	8	6	Motor comparison is nicely done. Though, they can get better output from lesser powered motors too.
High Voltage system (High-voltage tractive system accumulator + container + harness + accumulator isolation relays + fuse + insulation + wiring + HV lines)		12	8.88	
Safety circuit	Are safety hazards well understood? (e.g. battery over/under charging, arcing, energy storage, battery leakage due to impact and/or vibration, personal safety concerns, etc…)	7	5.04	Not much on that front was considered. Still, the team can do a lot better .
Recovery System	Regenerative braking: How does it influence overall weight, motor temperatures, controller and battery reliability? Have the strategies been well defined and developed?	7	0	Not done anything on regenerative braking.
Transmission	Has the team demonstrated adequate working knowledge of tractive system simulation tools? If so, what tools were used and how were they validated? Torque vectoring: which strategy is used Is the strategy and implementation effective to sufficiently benefit vehicle dynamics? Have the transmission and final drive been adequately engineered? Gearing Strategy? Are the CV / U-joints appropriately sized and properly aligned?	5	4.25	Approach is quite adequate and model simulation through MATLAB is exceptionally good.
Materials	Has the team demonstrated understanding of tribology, viscosity characteristics, viscous drag, additive packages, coatings, etc.? Have special materials or surface prep been used to reduced drag, weight, increased strength, or heat management? (Ti, Inconel, ceramic bearings, coatings, heat-treat, peening, etc.)	2	1.2	Needs improvement in this aspect.
Manufacturability/ Serviceability	Ease of repair? Sub-systems accessibility, parts interchangeability, manufacturing complexity? Have fasteners been standardized? Are special tools required to diagnose/service system?	7	4.55	Looks serviceable but not very well done.
2. Evaluation of Presentation [20 pts]				
Organization	Were the concepts presented in a logical order? Clarity and coherence of the content? Thoroughness of the ideas presented and the analysis?	6	5.58	Marvelous work done on the presenting everything
Visual Aids	Were visual aids used or clear visual references made to the car? Were the illustrations visible for all of the audience? Lack of grammatical and spelling errors?	7	6.86	Nicely done
Delivery	Did the presenters speak in a clear voice? Clarity of voice projection and appropriate volume? Did the presenters show enthusiasm and promote confidence in the technical aspects? Did the presenter maintain eye contact?	7	6.16	