Meeting #5 – November 30th 2019

Attendance:

* Jeppe, Electro, 1. Semester master, full commitment, thesis
* Abhinav, Sustain – solar /bachelor’s in mechanical. 1 Semester. Master, full commitment, thesis
* Ajinkya, Sustain - solar. 1. Semester master, full commitment,
* Layken, outside, PR
* Alexander, GE – Software, 6. Semester bachelor, masters at DTU, bachelor project
* Ellen – GE – Software, 3. Semester bachelor, masters at DTU
* Brajesh , Sustain – 1.semester masters, full , thesis
* Dylan, GE – 5. Bachelor, 1 year possible, bachelor project
* Rebekka, GE – 5. Bachelor, 1 year possible, bachelor project
* Simon, P&K – Mechanical, 1 semester. Bachelor, 2 years
* Guillaume, Mechanical, 1 semester. Bachelor,
* Victor, P&K - Mechanical, 1 semester, Bachelor
* Martin, Electro, 3. Semester bachelor
* Summary Vermillion Racing – Formula Student
  + Every sub team must present their designs
  + Documentation templates
    - Technical
      * One motor w/ differential
      * Brushless DC-motor w/ inverter
      * Use steel/al instead of carbon
    - Management
      * Proper Cost/Budget documentation
      * Choose you battles
* Summary UNSW
  + Balance between what you build yourself and what you buy
  + A lot of testing – test all components individually
  + No starting point, each sub team design their own part within regulations.
  + No limits in conceptual design, explore different ideas (adaptable to change)
  + Conceptual design -> Preliminary design -> detailed design (probably make more conceptual designs, so that you will have the fall-back option)
  + Components: availability and performance per price
  + Challenges: design changes a lot. Specific design must be concluded at certain time and stick with it. (Design freeze)
  + Design freeze is important deadline for multiple aspects
  + 4- vs 2-seater
    - 2 doors is easier -> higher chance of finishing the race
    - 4 doors should be a priority later

Stressed Suggestion – Go for a two seater.

* + Motor and battery management system are crucial, buy them, don’t risk it.
  + Items the car relies on should be bought
  + Sub teams must consider safety, gauge what can go wrong, predictive maintenance
  + Test extremes. Spend a lot of time testing and how to repair. Be prepared to fix things on the spot
  + Solar panels are rated. Test independently. Test car with charged battery
  + Chasis and body: cabon fiber , suspension: steel or alu, windows: simple geometry
  + Static and dynamic scrutineering not hard. Concentrate of testing reliability.
  + Cost of car ca 2 mil DKK!!!!
  + No air-bags complicated and the car is already fragile
  + Spare parts: Practice swapping tires and swapping other spare parts ( hence more time for testing and practice)
  + 20-25 team members at all time
  + Software team: how the car will behave, calculations. Maybe program the entire journey of the car over its entire duration.
  + Team manager: Keep people on track, organize meetings, oversees communication and timelines.
  + Technical Manage: keeps the contact b/w the software, mech and the elec teams.
  + Meeting sponsor: Ask what their expectations are? Maintain relationship for future help. Show them that they get value and return of investment
  + Team structure: Lay down replacement process as early as possible incase that a core member leave.
  + Commitment better than weekly hours
  + Transportation: Battery, brake down in customs can happen, ask other teams.
  + Professor reviewed design with respect to safety and
* PR
  + New members
  + Sponsors
  + Existence – show our presence
  + We really NEED to show other DTU students that we are here
* Jeppe mentions he knows a student at design and innovation he can layout the design a concept for PR
* DTU Roadrunners
  + Blue DOT – Claus asked for 200k extra
* Flat structure so far
* FDM refers to a consulting company: Auto Consult, EUROCAP certification
* We need guiding force – professor – authority
* Calendar -> allocate task on TEAMS, general messages both on facebook and teams

Tasks/Homework for next time:

* PV: Solar guys (Abhinav, Ajinkya, Brajesh)
* Battery and MS (Martin)
* Motors (Jeppe)
* Telemetry and Eco software (Alexander, Ellen)
* Breaking + Suspension + Steering (Victor, Guillaume, Simon)
* Chassis + Body (Rebekka, Dylan)

We are looking into different solutions to be presented. Look up

* Cost/Supplier
* Dimensions
* Complexity
* Adaptability
* Time frame
* Dependencies
* Reliability

Jeppe or Abhinav post google doodle to find meeting for next time